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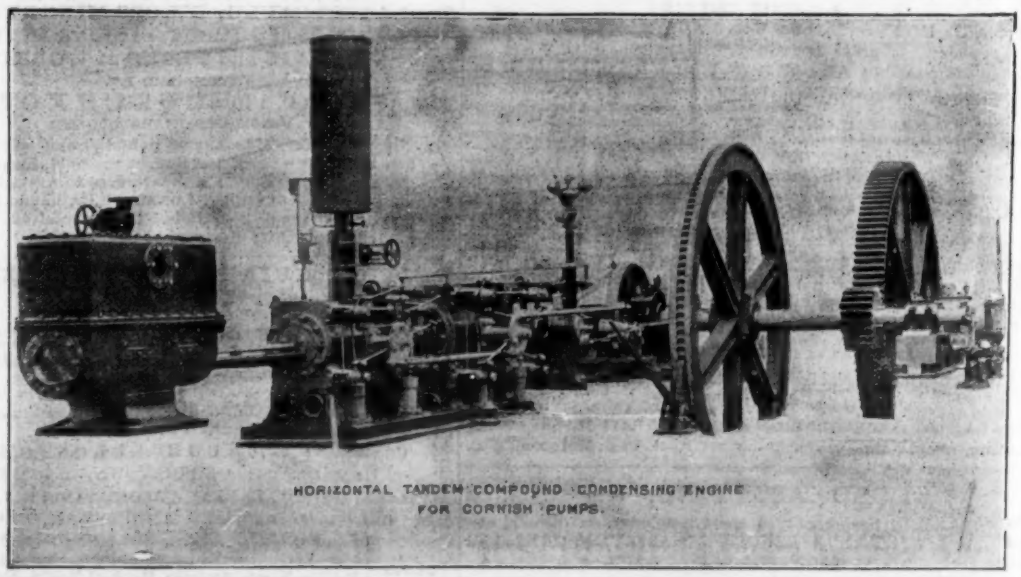

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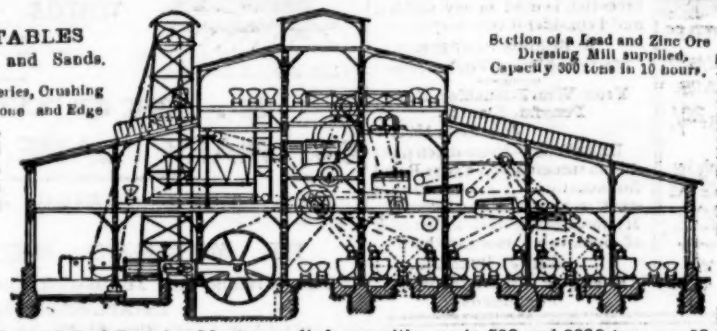
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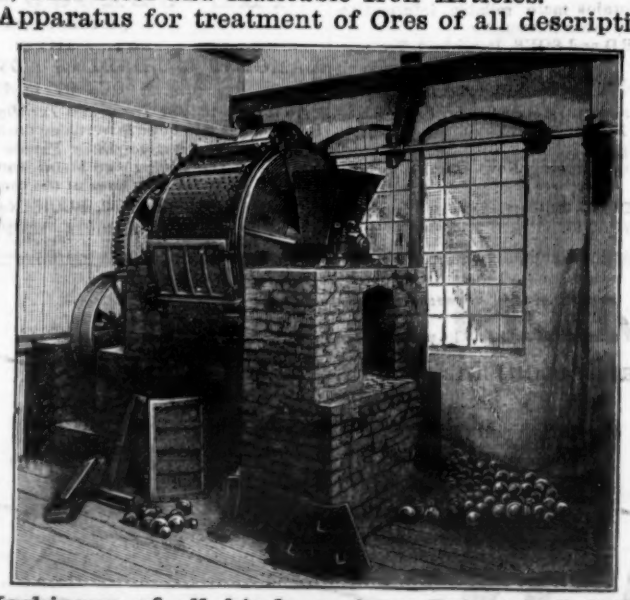
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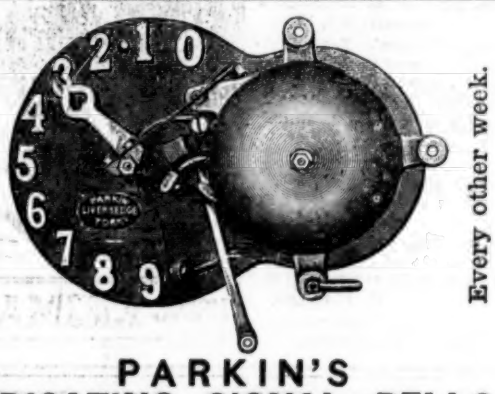
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Consumes 40 per cent. less Compressed Air than any other Drill at the same time giving the most effectual results.

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From His Grace the Duke of Rutland.
Belvoir, Grantham,
December 1st, 1879.

SIRS,—Elliman's Royal Embrocation is used in my stables; I think it very useful.
RUTLAND.
Master of the Belvoir Hounds.

—o—

From the Earl of Harrington
January 9th, 1889.

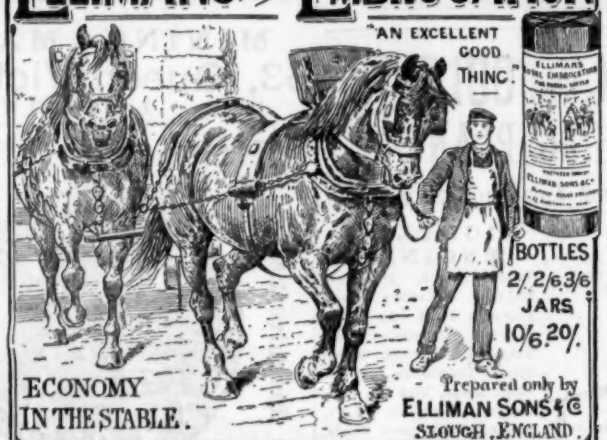
SIRS,—Elliman's Royal Embrocation is used in my stables, and I consider it the best that I can obtain. HARRINGTON.
Master of the South Wilts Hounds.

—o—

From Major M. J. Balfe,
South Park.
June 16th, 1892.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I can nighly recommend it,
M. J. BALFE.
Master of the Roscommon County Staghounds.

ELLIMAN'S ROYAL EMBROCATION



USING ELLIMAN'S EASIER HAULAGE

From Lord Haddington, Tyningham, Prestonkirk, N.B.
December 27th, 1885.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I consider it indispensable in any stable, but especially in the stable of a Master of Hounds.
HADDINGTON.
Master of the Berwickshire Hounds

—o—

From R. Burdon Sanderson, Esq., Warren House, Belford
July 10th, 1892.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I consider it very useful.
R. BURDON SANDERSON.
Master of Percy Foxhounds.

—o—

From Wm. J. Buckley, Esq., Penyfai, Llanelly.
July 16th, 1892.

DEAR SIRS,—I have much pleasure in recommending your Royal Embrocation. I always keep a stock in my stables and kennels. My farm bailiff has also found it of much value among my herd.
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Master of Carmarthenshire Foxhounds.

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Having REFRACTORY GOLD ORES hitherto untreatable at a profit, the MACARTHUR-FORREST (PATENT) PROCESS OF GOLD EXTRACTION offers a solution of the difficulty.

The chief features of this Process are:—

SIMPLICITY, ECONOMY IN WORKING, and SMALL COST of PLANT.

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Head Office—108a, Hope Street, Glasgow.
London Office—23, College Hill, Cannon Street, E.C.
Africa—The African Gold Recovery Co. (Ltd.), Johannesburg.
Australia—The Australian Gold Recovery Co. (Ltd.), 8, Post Office Chambers, Sydney, N.S.W., Charters Towers, Queensland, and Mr. Geo. S. Fowler, J.P., Adelaide.
United States—The Gold and Silver Extraction Co. of America (Ltd.), Denver, Colo.
Mexico—The Mexican Gold and Silver Recovery Co. (Ltd.), 2a, Calle de Providencia, No. 7, Mexico City, Mexico.
Chili—Mr. Wm. Jones, Calle Almendro, Valparaiso.
New Zealand—The Cassel Gold Extracting Co. (Ltd.), 6, Herald Buildings, Queen Street, Auckland.
Canada—Mr. W. Pellew Harvey, F.C.S., 717 and 719, Pender Street, Vancouver City, British Columbia.

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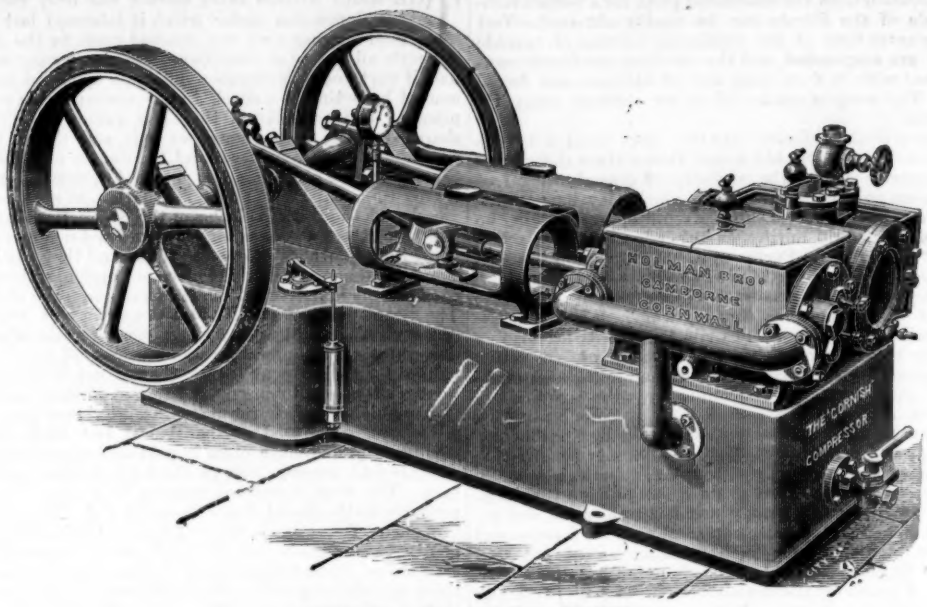

RECORD OF WORK DONE

At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** drove, sunk, and rose **288 FATHOMS** in **12 MONTHS,** equal to five times the Speed of Hand Labour

At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS** a **11 FEET** by **5 FEET PERPENDICULAR RISE 46 FATHOMS 5 FEET 6 INCHES,** and about midway drove **1 FATHOM 5 FT.** No communication of any kind was effected until holing to the Shaft brought down from surface.

E timates for ROCK BORING PLANT and GENERAL MINING MACHINERY on Application.

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Jeffrey Machines for Undercutting Coal,

WORKED EITHER BY ELECTRICITY OR COMPRESSED AIR.

OVER 500 IN USE.

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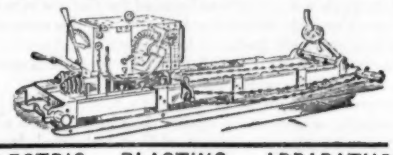

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HIGH OR LOW TENSION SYSTEMS.

REVISED CATALOGUE UPON APPLICATION.

SEC. A. MATHEMATICAL, MINING INSTRUMENTS, MINERS' LAMPS, &c.

SEC. B. ELECTRICAL PLANTS AND FITTINGS.

HENDERSON'S RAPID TRAVERSER.

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With which is Incorporated

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Offices of the Review: 222-225, Strand, W.C.

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AWARDS: CRYSTAL PALACE, 1890; TASMANIA, 1891; KIMBERLEY, 1892.

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In the CLARKSON-STANFIELD process of Concentrating Refractory and Complex Ores no water is required; dust is reduced to a minimum; the loss of Mineral through water-borne Slimes is obviated.

OUTPUT ½ TO 2 TONS PER HOUR, ACCORDING TO SIZE OF MACHINE.

CONCENTRATOR TO BE SEEN IN OPERATION AT THE COMPANY'S ONLY ADDRESS:

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The Machine is superior to Sieves for Sizing Homogeneous Substances, such as Emery, Sand, and Powders, and may be used to great advantage in the preparation of Ochre.

N.B.—The owners of the Carndochan Mine, near Bala, North Wales, will, by arrangement, show their CLARKSON-STANFIELD plant working on a Refractory Low Grade Gold Ore.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

*** *We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.*

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

HOME CONTRACTS.

Railway, May 6-13 (*Blantyre, Scotland*).—For constructing a branch railway from the new pits at Whistleberry Colliery, Blantyre, to a point on the Caledonian Railway near Strathaven Junction. Schedules of quantities and specification of work can be had by applying at Greenfield Colliery, Hamilton. An engineer will meet intending contractors at Whistleberry Colliery on 6th inst., at 12 noon, and exhibit plan. Tenders will be received up to 13th inst. by Mr. Arch. Russell, 68, Great Clyde Street, Glasgow.

Railway Stores, May 7-14 (*India Office, S.W.*).—The Secretary of State in Council is prepared to receive tenders to supply (1) steel bearing springs, (2) rolled-steel wood screws, (3) wrought-iron spikes for rails, (4) brake vans, &c., (5) workshop machines. The conditions of contract may be obtained on application to the Director-General of Stores, India Office, Whitehall, S.W.

Bridge Works, May 11 (*Aberystwyth*).—For iron girders, masonry, &c., required for widening a bridge at Aberystwyth, for the Aberystwyth Urban District Council. Plans and specifications may be seen by appointment at the office of the Council, High-street, Aberystwyth, and tenders must be delivered to Mr. E. Cooke, surveyor, Council Offices, Aberystwyth, by May 11, endorsed "Tender for Bridge."

Engines, May 14 (*West Ham, Essex*).—For supply of two beam pumping engines, each about 250 indicated horse power; two centrifugal pumps and engines, each about 320 i.h.p.; and four boilers, each 30 feet in length by 7 feet 6 inches in diameter. Also alterations to existing machinery. Plans and particulars may be obtained, after April 1, from the Borough Engineer, Town Hall, Stratford, E., on deposit of £5 (Bank of England note), returnable on receipt of *bona fide* tender.

Fuel, May 15 (*Liverpool*).—For the supply of coal to their steamers in Liverpool for one or two years from September 1, for the City of Dublin Steam Packet Company. Specifications and forms of contract can be seen on application to Captain Bell, R.N., 9, Regent Road, Liverpool.

WE are informed that the Colonial Firance Corporation, in conjunction with the West Australian Pioneer Syndicate, has acquired seven acres of land in the centre of the City of Perth, Western Australia.

NEW PATENTS.

LIST of APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs. Rayner and Company, Patent Agents, 37, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

7933 James Jones Meldrum, Thomas Frederick Meldrum, and John Wesley Meldrum, 15, Water Street, Liverpool.—Improvements in or connected with artificial supplying of air to steam generators and other analogous furnaces.—April 22.

7943 James Ramsey Sandilands and Hugh Sprott Clement, 35, South Cromwell Road, Glasgow.—Improvements in apparatus for increasing the draught in steam generators and other furnaces, and purifying the gases evolved in combustion.—April 22.

7957 Henry Robert Angel, 7, St. Helen's Place, London.—Improvements in the extraction of lead with silver, gold, or other metals from ores b euded with sulphide of zinc or otherwise.—April 22.

80.7 Charles Brooke Crawshaw, and David Bannister, Ridings Colliery, Dewsbury.—A patent adjustable perforated screen for cleaning and riddling coal and other minerals.—April 23.

8012 Lot Wallace, 3, Bridport Terrace, Dorchester.—Improvements in water heaters and filters for steam boilers and other purposes.—April 23.

8023 John Armstrong, 20, Bucklersbury, London.—Improvements in furnaces and appliances for the extraction of metals from their ores.—April 23.

8043 Arthur George Mumford, 73, Chancery Lane, London.—Improvements in steam generators.—April 23.

8059 Henry Harris Lake, 45, Southampton Buildings, Chancery Lane, London.—Improvements in valves and valve-gear for direct-action engines. April 23.

809 Athur Edgar Westwood, 16, Kingscote Road, Edgbaston, Birmingham.—An invention for the improved ventilation of the muffles of muffle furnaces by means of a hot blast.—April 24,

8100 Christian Korte and Ernest Whitely, 36, Victoria Road, Leeds.—Improvements in mechanism of friction clutches.—April 24.

8149 Paul Giffard, 323, High Holborn, London.—Improvements in or relating to pumps.—April 24.

8150 Paul Giffard, 323, High Holborn, London.—Improvements in or relating to valves.—April 24.

8188 Thomas Henry Holmes, 55, Chancery Lane, London.—Improvements in piston rod packing.—April 24.

8193 Arthur Bollinckx, 31, High Holborn, London.—A new or improved system of piston valves applicable to steam engines or the like.—April 26.

SPECIFICATIONS PUBLISHED.

427, Robson and Crowder, treating crushed ores, slimes, &c., 1894; 4317, Fiddes, A. and F. A., motors, 1894; 8330, Furness, rotary engines and pumps, 1894; 10,191, Gibbs, furnaces, 1894; 10,990, Purves and Blechynden, boilers, 1894.

The above specifications published may be had of Messrs. Rayner and Co., 37, Chancery Lane, London, at 10d. each including postage.

JOINT-STOCK COMPANIES.

NEW REGISTRATIONS.

THE following are among the joint-stock companies registered at Somerset House since our last notice:—

Birthday Amalgamated of Western Australia (Limited).—Registered May 2 by Snell, Sons and Greenip, 1 and 2, George Street, E.C., with a capital of £30,000, in 1s. shares. Objects: to acquire, explore, work, and develop or otherwise turn to account any lands, estates, gold or other mines, mining rights, water rights, mineral properties, &c., and generally to carry on business as miners, millers, crushers, smelters, &c, in all its branches.

Goongarrie Gold Fields (Limited).—Registered 1st May. Capital £100, in £1 shares. Objects: To acquire, work, develop, and generally turn to account mines, mining claims, grants, leases, concessions, &c.

Concessions Acquisition Syndicate (Limited).—Registered 2nd May. Capital £2000, in 1s. shares. Objects: To acquire and deal with the whole or a part of a concession granted by the paramount chief of the territory known as "McKombie's Territory," in South Africa.

Nana Creek Gold Mining Company (Limited).—Registered 1st May. Capital £40,000, in £1 shares. Objects: To acquire three gold mining leases in the parish of Bagawa, Fitzroy county, New South Wales, and to develop and turn to account the same.

Caledonian Gold Mining Company (Limited).—Registered May 2, by Jordan and Sons, 120, Chancery Lane, W.C., with a capital of £120,000, in 5s. shares. Objects: To adopt and carry into effect an agreement, the parties to which do not transpire, for the acquisition of certain mining claims, grants, licenses, leases, concessions, &c., in Western Australia, to develop and work the same, and to carry on the business of miners, millers, and smelters, and the general business of a metallurgical company.

Shanghani Development Company (Limited).—Registered May 3, by Ingle Holmes and Sons, 20, Threadneedle Street, E.C., with a capital of £70,000, in £1 shares. Objects: To acquire freehold and other farms, properties, mines, mining and water rights, grants, leases, claims, concessions, licenses, &c., in Africa, or elsewhere, and to prospect for, open work, explore develop, and generally turn to account diamond, gold, silver, copper, coal iron, and other mines.

North Rand Mines (Limited).—Registered May 3, by Temple and Co., 3, Pope's Head Alley, E.C., with a capital of £30,000, in £1 shares. Objects: To adopt and carry into effect an agreement expressed to be made between Julius Leszynsky of the first part, and this company of the other part, and to acquire, work, develop, and generally turn to account any gold mines, mining, water, and other rights, grants, claims, leases, concessions, and auriferous land in the Transvaal Republic, or elsewhere, and to carry on the business of a mining and smelting and metallurgical company in all its branches.

New Clogau Gold Mines (Limited).—Registered 4th May, by Williams and Neville, 23, Austinfriars, E.C., with a capital of £75,000, in £1 shares. Objects: To acquire, work, and generally turn to account a certain mineral property known as the Clogau Gold Mine, situate in North Wales, and to prospect, explore, and test mines supposed to contain minerals or precious stones; and to carry on the business of miners and smelters in all or any of its branches.

THE CYANIDE PROCESS.

ITS PRACTICAL APPLICATION AND ECONOMICAL RESULTS.

By A. SCHEIDEL, Ph.D., E.M.

(*Published by the Californian State Mining Bureau.*)

XI. Exemplification of the Process—The process in various countries.

(*Continued from page 506.*)

C. THE UNITED STATES OF AMERICA.

NEVADA.—A branch company was formed by the owners of the MacArthur-Forrest patents for introducing the cyanide process on the Comstock lode. A number of laboratory experiments made in the Consolidated Virginia and California Company did not lead to the adoption of the process.

Arizona.—No information can be obtained in reference to the process in this territory, where a company has been organised for its introduction, with the exception of that obtained from the Champion Mine, Yavapai county, where the results were unsatisfactory, apparently on account of faulty technical manipulation.

New Mexico.—The Deep Down Mine had adopted the cyanide process but abandoned it in favour of pan amalgamation, the reasons for which are explained (*Engineering and Mining Journal*) as consisting in a change of the character of the ore.

South Dakota.—The Black Hills Gold and Silver Extraction Mining and Milling Company, of Deadwood, have of late erected a cyanide plant, about which the general manager, Mr. I. S. Childs, gives the following details:—

"The ore consists of from 80 to 95 per cent. of silica, accompanied by variable quantities of iron, both in the form of peroxide and the various conditions of partial oxidation, and contains traces of copper, manganese, arsenic, and antimony. The ore is dry crushed with rolls, and passes through a 30 mesh screen. The percolation vats of steel are 24 feet in diameter by 3 feet in depth. The cyanide solution is usually of 0·5 per cent. strength; its quantity amounts to half the weight of the ore. From 85 to 90 per cent. of the assay value in gold, and from 50 to 75 per cent. of the silver value is extracted. All extracted bullion is recovered. Lime is used with the ore, and caustic soda with the concentrates, to remedy the 'acidity.' The consumption of zinc amounts to 0·55 lb. per ounce of bullion recovered. The treatment takes from 24 to 48 hours. The value of the material before treatment is $20; the tailings assay from $2 to $3 in gold. The total expenses for treatment, including $1 patent royalty, are $3·50 per ton. The plant for the treatment of 40 tons per 24 hours cost $25,000: 15 men are employed per 24 hours."

The Golden Reward Chlorination Works, of Deadwood, are reported as adding cyanide works to their plant. The works are custom works.

Many tests with cyanide have been made in various other States—in some instances leading to the adoption of the process on a commercial scale; in others, experiments were conducted with little knowledge and in a cursory manner; in other instances, again, the character and qualities of the ore prevented cyanide treatment from being a success. One instance, where the process was first used, but afterwards abandoned, is the Creighton Mining and Milling Company, Cherokee county, Georgia, where the extraction from concentrates from old oxidised tailings, as described by the general manager, was reasonably good, being 82 per cent. of the assay value; from the fresh concentrates from deeper levels, however, the returns were only 50 per cent., in consequence of which the process was discarded, and barrel chlorination introduced in its place (H. T. Fisher). In other instances, the value of the ore in the mine fell off, so that not only the cyanide process, but all operations, had to be stopped. An instance in point offers—the Morstock Mine, Montgomery county, North Carolina. The engineer in charge stated (*Engineering and Mining Journal*) that he had no trouble in treating the ores of that mine by cyanide, and making a high extraction (95 per cent.) at a moderate cost. Cyanide solution of 0·25 per cent. was used; the total cost of mining, milling, and royalty amounted to about $3·75. The mine however, was shut down, the ore value receding to $1·25.

California.—The Shasta Gold Recovery Company erected a mill under the direction of Mr. A. B. Paul. The mill has been working for some time successfully. Mr. Paul was one of the first, if not the first, who used wet crushing of the ore with cyanide solution, instead of water, in the mortars. No authentic information could be obtained in reference to his results.

A cyanide plant has been erected at the Gold Run Mine, Siskiyou county.

The following information, referring to the cyanide process in Kern County, has been contributed by Mr. W. L. Watts, assistant in the field to the California State Mineralogist:—"A company which was organised in St. Louis to reopen the Bright Star Mine, in Kern county, attempted to work several thousand tons of tailings at that mine by the cyanide process. It is said that the leaching plant used for the purpose could only handle 6 tons of tailings every 24 hours, and that about 45 per cent. of the precious metal was recovered.

"The Cyanide Process at Havilah, Kern County.—In 1892, Messrs. Stebbins and Porter commenced leaching at Havilah. They first treated 50 tons of heavy sulphuretted concentrates at the Reese mill. The assay value of these sulphurets ranged from $15 to $48 per ton. Owing to leakage and other causes, their first experiments were not remunerative, but the last and richest portion of this batch of concentrates was treated with great success, 86 per cent. of the precious metal being saved. One difficulty encountered arose from the fact that, owing to sulphurets having long been exposed to the air, they were partially oxidised into acid sulphates; the detrimental effect of these sulphates was eventually overcome by neutralising them with quicklime. One hundred tons of tailings was then treated at the Hayes mill. These tailings showed an assay value of $20 per ton, and about 91 per cent. of the precious metal was saved. This last lot of tailings consumed 3 lbs. of potassium cyanide to the ton of ore. The process employed is as follows:—The tailings are first treated in a tank 6 feet long, 6 feet wide, and 6 feet deep, and holding a charge of 6 tons of ore. In this tank the tailings are saturated with a solution containing one-half of 1 per cent., by weight, of potassium cyanide. The tailings are allowed to stand in this solution for 48 hours, and are then sluiced into filter-bottom tanks, where they are washed. These filter-bottom tanks are 7 feet long, 10 feet wide, and 3 feet deep. The tailings are sluiced from the saturating tank with a stock solution which has a strength of 1-15th of 1 per cent. of potassium cyanide. About 1000 gallons of stock solution are used in sluicing 6 tons of ore. The filtrate is then tested to determine whether a sufficient percentage of the gold and silver value of the pulp (as shown by assay) has been dissolved. If the filtrate is found to contain a sufficient percentage of the gold and silver, the solution is drawn off, and the tailings are washed with fresh water; enough wash-water is used to replace the amount of the solution taken up by the tailings. The amount of water thus added to the solution is usually about 500 gallons to 6 tons of ore. If on testing the solution it is not found to have dissolved a sufficient percentage of the gold and silver, the stock of solution is left on the ore until all the gold and silver which it is possible to extract by this process has passed into solution. The temperature of the solution employed has varied from 40° to 80° Fahr., and within these limits no difference was experienced in the solubility of the gold and silver. In this process it was found to be far better to assay the filtered solution than the macerated pulp, for a perfect volumetric sample of the filtrate can be readily obtained.—Test assays: Four assay tons of the auriferous solution of cyanide of potassium are evaporated, and the resultant auriferous compound is mixed with half an assay ton of litharge, and fluxed with glass. The assay is conducted as an ordinary assay for gold and silver.

"In speaking of the different ores they have treated by the cyanide process, Messrs. Stebbins and Porter state that it has been their experience that the majority of ores showing free gold also contain gold in any sulphide which may be present; but that, except in the case of sulph-arsenides, ores showing no free gold seldom contain auriferous sulphides. In September, 1893, Messrs. Stebbins and Porter were building a mill in which to treat ore by the cyanide process at the Iconoclast Mine."

A cyanide agitation plant was erected by me (the author) in 1893 at the Utica Mine, Calaveras county, which, being successful in all details, shall here be described. The Utica Mining Company are the owners of an extensive plant, consisting of 160 stamps with Frue vanners and Tulloch concentrators, and a canvas plant for the saving of the sulphuret slimes which escape from the concentrators. Up to last year all concentrates were extracted by the Plattner chlorination process, which treats the coarse vanner pyrites well; the fine slimes of the canvas plant, however, do not give equally satisfactory results, on account of their containing a very large percentage of carbonate of lime, which is troublesome, and involves loss in the roasting furnace on account of its fineness and lightness, and is costly in chlorination on account of its taking up chlorine. The slimes are also difficult to leach in the chlorination vats. I examined the different classes of concentrates as to their fitness for treatment with cyanide. The coarser sulphurets from the concentrators did not give, without further grinding, sufficiently high extraction results to warrant the substitution of the chlorination by the cyanide process. The results of the experiments with the slimes from the canvas plant, which were very satisfactory, led to the construction of the present agitation plant. This plant is completely built of steel and iron, and consists of the following parts:—A vertical cylindrical agitator (constructed by Mr. C. D. Lane and myself) 5 feet in diameter by 5 feet high, of ¼ inch steel plate, with a cast-iron bottom 2 inches thick, with strengthening ribs underneath; to the bottom is cast a cone, through which passes the vertical shaft, which carries four arms. To these are attached the four paddles of ⅛ inch steel, 6 inches wide, twisted like the plates of a propeller. A ring connecting the four paddle arms gives greater stability to them. The shaft with the paddles can be raised, by means of a screw-spindle, 4 feet above the bottom of the apparatus. A wrought-iron ring, 3 inches wide and ¼ inch thick, riveted outside around the top of the agitator, strengthens the structure. The driving gear is placed below. An opening 4 inches diameter, in the bottom, discharges the contents of the agitator through a pipe, furnished with a stopcock, on to Scheidel's patent vacuum filter, placed on the floor below and in front of it. Here a perfect separation of the cyanide gold solution is effected from the residues. This filter is built of ¼ inch steel, with bottom ⅜ inch thick; it forms a rectangular box 3 feet 6 inches deep, 7 feet long, by 5 feet wide; 2 feet above the bottom is a perforated steel filter bottom of ⅜ inch boiler plate, made in three movable sections, supported by angle iron running around the sides, and by the vertical support of double T iron. The perforations are of ⅛ inch diameter, at a distance of ½ inch from each other. This filter-bottom fits closely to the sides of the apparatus; it is covered with a blanket, which is kept in position by bars running along the four sides, and fastened by thumb-screws. A grating in three sections of ⅜ inch round iron serves to protect the cloth; the intervals of 3 inches between the bars are filled in with coarse sand. The filter partition divides the apparatus into two compartments, one above the other; the lower forms a closed box, which is in connection with a duplex vacuum pump, by means of which the air can be rarified when the filter bottom is covered with pulp. The upper part, above the filter bottom, receives the contents of the agitator. The real bottom of the apparatus has a discharge with a 3 inches stopcock, for running off the filtered solution into either one or the other of the two solution tanks, which are standing on the floor one step lower, in front of the filter. All cocks and taps of the plant are of considerable diameter, which secures a quick charge and discharge. The filter is provided with a gauge to indicate the height of the solution within, a gauge indicating the degree of vacuum, an air tap to permit influx of air when the filtered solution is being discharged, and a manhole.

(*To be continued.*)

OTIS STEEL COMPANY.—The annual general meeting of the shareholders in the Otis Steel Company was held on Wednesday, at Winchester House.—Mr. J. T. Smith, who presided, said that the accounts showed a loss of £60,440 18s. 6d., which, added to the loss shown in the previous balance-sheet, made a total debit to profit and loss of £93,170 12s. 4d. Although the directors had hitherto been enabled from the resources of the company to provide for the prompt payment of the debenture interest, it would not be prudent or even possible to continue its payment, and at the same time to carry on the works under the present adverse circumstances. As, however, they expected that the heavy wave of depression which had been passing over the States must eventually disappear, as on former occasions, they had determined to urge the shareholders now to take whatever steps were necessary to avert a still greater calamity—the breaking up of the works and the realisations of the concern at a time when its true value could not possibly be obtained. Such an event would have a most disastrous effect upon the interests of all concerned. Under these circumstances they had asked Mr. Alexander Young, of the firm of Messrs. Turquand, Young and Co., to prepare a scheme of reconstruction, which was fully set out in the report, and which seemed to him to provide the means for saving the company from the disaster which otherwise might speedily overtake it. He moved a resolution to the effect that it was desirable to reconstruct the company, and that the company accordingly should be wound up voluntarily; that Mr. Alexander Young should be appointed liquidator; that Messrs. J. W. Brett, J. Rathbone, J. T. Smith, C. Waterhouse, A. Young, and J. Young should be appointed a committee to consider the scheme of reconstruction submitted by the board; that such committee should report to the shareholders as to the adoption of the scheme of reconstruction, and that for that purpose the meeting should be adjourned until May 22.—Mr. C. B. Holland seconded the motion.—A long and animated discussion ensued, in the course of which the Chairman stated, in reply to some adverse criticisms, that unless the resolution he had moved was passed that day, the works in America would fall into the hands of unfriendly liquidators.—Eventually the resolution moved by the Chairman was agreed to.

PARIS LETTER.

[FROM OUR OWN CORRESPONDENT.]

Recovery in Rand shares.—New gold discoveries.—Activity in nitrate shares.—The French colliery industry.—Position of zinc.

THE South African share market has fully recovered from the depression under which it laboured last week, when gold mining scrip was reacted upon by the sudden drop in nearly all classes of securities. This temporary weakness has had, if anything, a favourable influence upon the mining share market by acting as a check to the unreasonable forcing-up of prices. It is considered that the values of Witwatersrand shares are quite high enough as it is, and that if they should advance to a more inflated level, the danger of a collapse would become imminent. For the moment, prices of gold mining shares are not liable to much fluctuation, at all events, as compared with the ups and downs of the Stock Exchange. Buyers look upon these shares as a more secure and remunerative investment than is otherwise open to them, and they pay little attention to the changes that take place in London, so long, that is, as they are the manifest outcome of the manœuvres of speculators. The recent renewed activity in the purchase of Transvaal scrip across the Channel has, however, given a certain stimulus to the demand for shares in Paris, and values all round rapidly advanced to their recent level. There has been a particularly brisk run upon Robinsons, Ferreiras, Simmer and Jack, and Goldenhuis, of which the prices are now very firm. Kleinfonteins were introduced on the Bourse last week at a moment when a drop had taken place in gold mining securities, and they are only just coming back to the level of their original quotation. The next Transvaal concern to be quoted in Paris will probably be the Buffelsdoorn Consolidated. The shares of the Compagnie Française de Mines d'Or et d'Exploration are finding plenty of purchasers, and the profits being secured by this concern are an eloquent testimony to the interest taken in everything appertaining to Transvaal gold mining. It is feared, indeed, that the glamour surrounding enterprise in the Transvaal may possibly lead investors astray by inducing them to place their money in concerns that can only have the remotest bearing upon the auriferous industry. Two or three companies of this description have made their appearance upon the Bourse, and they seem to have a certain success in interesting French capital. If by this means it is found possible to divert some of the unemployed money out of the one channel, where it is already too plentiful for remunerative investment, a great deal of good may result to other branches of the mining interest, but this contingency affords very little satisfaction to many people, who think that already too much French capital has passed into English hands. Australian mines are receiving very little attention at the present moment, and are not likely to do so until some definite financial results are forthcoming. Upon the other hand, the Watana Mine, which is a purely speculative undertaking, has secured unlimited confidence, chiefly on the strength of the discovery of rich "pockets," and on account of the fact that it is being worked with French capital.

The present may evidently be considered the psychological moment for the discovery of new gold-bearing deposits. Auriferous mining is the one thing in which investors are interesting themselves, and the finding of new gold fields is sure to come in for an immense amount of attention. One of these fields is said to have been discovered in Bokhara by a mining engineer—Mr. Zhoravko-Pokrovsky—who is now engaged in ascertaining the extent of the deposits. The quartz is said to be of extraordinary richness and abundance. As however, telegraphic advices from Russia speak vaguely of "seams of pure metal," it is evident that little reliance can be placed in the discovery until more accurate information is forthcoming.

Investors have begun to interest themselves to an increasing extent in the question of nitrates. The considerable profits that have been made in the past are considered to be a satisfactory guarantee of remunerative dividends in the future, and a good deal of business is now being done in Nitrate Railways and other shares. A new concern is being introduced into Paris—the Compagnie Générale des Nitrates, which was formed in Belgium, with a capital of £400,000, for the taking up of shares of nitrate companies. The shares in which the company will chiefly operate are those of the Nitrate Railways, the Lagunas Syndicate, the San Jorge Company, and the Paccha and Jaspampa Company.

The increasing dependence of France upon England for its coal supplies is causing a certain feeling of uneasiness to political economists who have been trying for some years past to interest native capital in the development of the coal measures in this country. At one time it was thought that they had succeeded in attaining this end. The improvements to the harbour works at Dunkerque, and the shipment of a few tons of coal to Russia opened up visions of a large export trade, which might encourage a more active working of the fuel deposits. But at the same time the deepening of the Seine, and the facilities for transport from the seaboard to the interior, are so far to the advantage of the English colliery proprietors, that the competition of English fuel is becoming more and more severe, and the ports are supplied with nearly all their coal from Cardiff and Newcastle. It is, indeed, quite impossible for the native collieries to turn out enough fuel to meet the whole of the country's requirements. The annual consumption of coal in France is about 36,000,000 tons, and of this only 26,000,000 or 27,000,000 tons are extracted from the native mines, the rest being imported from England and Belgium at a cost of about 10,000,000 sterling. At the present cost of imported fuel the majority of the native collieries cannot be worked at a profit. Many of them are situated so far from the great centres of consumption that they have had to be abandoned, and of those being worked only a few have not yet reached the limit of output. The Nord and the Pas-de-Calais, where there is alone a possibility of extension, produce about 14,000,000 tons of coal a year, and the other principal centres are the Loire, the Gard, the Bourgogne and Nivernais, the Tarn and Aveyron, and the Bourbonnais, which together turn out 10,000,000 tons. The heavy losses that have been incurred in the colliery industry during the past few years are not likely indeed, to encourage capital to embark upon new enterprises of this description.

It is possible that an attempt will be shortly made to reconstitute the syndicate of zinc producers which lapsed at the end of last year. During the first five years of its existence, from 1886 to 1891, the value of zinc advanced steadily from 35·50 francs to 58 francs, and the profitable character of the industry at that moment induced capitalists to erect new works in France and Belgium with the result that, being outside the limitation clause, the competition very soon brought down prices to their old level. It was hoped this year to renew the syndicate upon more comprehensive lines, but the new concerns refused to give their adhesion. Since then values have dropped to such a point that the industry is passing through a serious crisis, and it is thought that the time has come when another attempt should be made to arrive at a common understanding.

RECENT IMPROVEMENTS IN AMERICAN METALLURGY.

Third Lecture at the Society of Arts.

MR. DOUGLAS delivered his third lecture on recent improvements in the machinery and methods of American metallurgy, at the Rooms of the Society of Arts, on Monday, the 6th of May. He commenced by saying:—"Immediately after the close of the Civil War the exportation of argentiferous lead to this market drew attention, and attracted British capital, to the Rocky Mountain regions of the United States. It was not long, however, before local smelters deflected the ore, not only from British, but from Atlantic coast works. The refining of the lead and the separation of the precious metals speedily followed the reduction of the ore in the Western establishments. The same sequence of events has followed in the metallurgy of copper. The mines of the south-western territories have always yielded only oxidised ores whose grade was so low and whose metallurgy was so simple that they were from the first treated on the spot. But from California, as far back as 1864, notable quantities of copper ores found their way to England, and Montana until quite recently, has shipped to your smelters first ore and then matte in such abundance as to have constituted one of their main sources of supply. Now very little matte leaves the country, and separation of the precious metals is being effected there. It is a cardinal principle of American industrial life that what can be done abroad can equally be done at home, and that if there is any profit in the doing thereof, that profit may as well accrue to the producer, or, at any rate, to his countrymen. As a consequence, crude material of all kinds will be exported in diminishing quantities from the United States, but be manufactured at home into articles of ultimate utility, and in these forms compete in the markets of the world with the products of Europe's workshops. The percentage of cost, chargeable to labour, is higher in winning the crude material of most industries than in converting it into finished forms. Hand-labour virtually ceases—for instance, when the farmer turns over his wheat to the miller of Minneapolis. So in our craft it is in the mining of iron and copper ores and of the coals for their reduction that labour plays a more conspicuous figure than in directing the automatic machinery with which all the best furnace plants and rolling mills are now equipped. Furthermore, the stimulus to mechanical invention and application which high labour cost impressed on American metallurgy will not exhaust itself, no matter how rapidly labour cost in the United States may decline and approximate the European standard. If, therefore, heretofore with the great disparity in wages which has prevailed, competition, in certain branches, has been possible, the field henceforth of successful competition will be enlarged, and the struggle in the arena of the world's market become keen and merciless, unless, by some means or other, competition be bridled.

"Prior to the imposition of the heavy tariff necessitated by the Civil War, copper entered the United States free, and was an article of commercial exchange with Chili and Cuba. At that time the total production of the United States was only about 7500 tons, of which the Lake region contributed 89 per cent. The balance came from sulphuretted ores in the Apallachian Range between Vermont and Georgia. The mineral from the Lake mines was smelted at Hancock, on Portage Lake, at Detroit, and Pittsburg. The ores of the Ducktown Mines, Tennessee—which, after remaining for many years idle, have now been reopened by an English company—were reduced and refined on the spot; but those of the smaller mines of Virginia, North Carolina, and Maryland were shipped chiefly to Baltimore, and smelted with the foreign ores. At that time there were three other small smelting works on the coast; but when the foreign supplies were cut off by the high tariff, they were either closed or confined their operations to rolling copper, except the Baltimore Works, which, amidst various vicissitudes, has survived. From 1860 to 1880 the production and consumption in the United States were nearly balanced. But from that date production so rapidly gained upon consumption that the excess to-day available for export may be set down at from 60,000 to 70,000 tons per annum. In round numbers, the production of the copper in the United States is 160,000 long tons per annum; the home consumption is 100,000 tons; and the balance available for export is, therefore, about 60,000 tons."

Mr. Douglas then described the Baltimore, the Orford, the New Jersey Extraction, the Nichol's, Laurel Hill, the Natrona, and other copper works, whose average capacity in electrolytic copper amounts to about 150,000,000 lbs. a year. He said:—"As a result of the large capacity of these Eastern works, more electrolytic and less casting copper will be produced, less and less unrefined copper will be exported, and now that the duty has been removed the Eastern refineries will endeavour to replace the Western material of which they are being deprived by the establishment of Western works, by the importation of foreign copper. The English copper refiners may, therefore, expect inevitable competition before long by the United States for foreign ores in foreign markets. This will not alter the world's statistical table, but it will shift, more or less, the centres of active copper industry." Mr. Douglas went on to state that the metallurgical improvements which have been most influential in enabling the West to make itself independent of the Eastern smelters and refiners, have been the pneumatic method of concentrating matte, and the electrolytic method of separating the precious metals from metallic copper. "These two operations fulfilling the required conditions of Western usage, that machinery shall to the utmost displace hand-labour, have completed a series of mechanico-metallurgical methods and appliances, through which it has been possible alone to utilise profitably some of the complex and by no means high grade ores of the Rocky Mountains."

Mr. Douglas then described the simple furnaces and method employed for smelting and refining at one operation the rich concentrates of metallic copper made on Lake Superior. He then illustrated as well as described the water-jacket furnaces, which have been used exclusively in Arizona for the production of bar copper at one fusion from the carbonate ores of that region. He described the growth of the water-jacketted furnace at the old smelting plant of the Longfellow Mine, at Clifton, from a copper-plate, used as a stop-gap to repair a furnace, through clumsy copper troughs filled with water, which was the next step in the development of a copper-jacketted furnace there, to the iron and steel furnaces now in use. He said that no comparative test had been made to determine the relative economies in fuel and construction material of water-jackets and brick furnaces. He is, however, inclined to think that the balance of advantage, even where bricks are cheap, is in favour of the water-jacket. He described an improvement introduced at Globe, Arizona, which consists in raising the temperature of the blast 55° Fahr. by air-jacketting the brick crucible of the furnace, and forcing the blast through this air space before it enters the tuyeres. It would seem to follow that if, during its rapid passage around the unprotected crucible of a furnace, the temperature of the blast can be raised 55°, the loss by radiation in an ordinary brick furnace must be very much greater than its advocates allow.

"In all the mines of Arizona, as depth is attained sulphurets are reached. Already the Copper Queen Company is meeting these altered conditions by introducing a Bessemer plant to treat mattes made out of a mixture of crude sulphurets and oxides. In this way Arizona bars will continue to be made, but of a higher and more uniform percentage than heretofore. It has never been possible to make Arizona bars as absolutely uniform as Chili bars, which are tapped from a reverberatory furnace when the copper has been brought up to the desired pitch. Arizona bars tapped from a cupola furnace in which the mixture is not of invariably uniform constitution, and in which the conditions of temperature and feed vary, can never be absolutely uniform from day to day and month to month."

The other most important modification made in Arizona methods of late has been the introduction of a leaching plant at the Arizona Copper Company's Works at Clifton, which will be further referred to in the next lecture.

Mr. Douglas then described the more important smelting works in Montana, which has been of late years the most prolific copper producer, not only of the United States, but of the world, making 47 per cent. of the total production of the United States and about 22 per cent. of the world's total production. Though nearly the whole of the 150,000,000 to 160,000,000 lbs. of metallic copper credited to Montana comes from the neighbourhood of the town of Butte, the largest smelting works are at a distance from Butte in order to control sufficient water supply. The Anaconda Works, which treat the ore from the Anaconda and the Haggin group of mines, are 36 miles distant from Butte; while the works of the Boston and Montana Company are situated near the Great Falls of the Missouri, some 160 miles distant from Butte. In the immediate neighbourhood of Butte there are, however, no less than five smelting works, which anywhere else would be considered large. While the total production of Arizona of about 40,000,000 lbs., owing to the simple composition of its ores, is made in 18 small water-jackets, the smelting plants of Montana are on a magnificent scale, containing about 200 mechanical calciners, 100 large reverberatory smelters and refineries, 10 large cupola furnaces, 20 sets of Bessemer converters, and two large electrolytic plants. Most of the smelting is done in the reverberatory furnace, but at several of the works the tendency is towards a more extended use of the cupola and the utilisation of crude, lump sulphurets. At the Anaconda Works the reverberatories are of the ordinary English type, though larger in size, and are heated by solid fuel. At the Boston and Montana works, on the other hand, there are eight tilting reverberatories built after the model of the Pennsylvania Steel Company's tilting Siemens and Martin steel furnaces. In both works the ore—calcined in Brückner cylinders, as described in the last lecture—is passed red-hot to the reverberatories, thereby increasing their capacity to over 50 tons per day. In the Anaconda Works the matte of about 60 per cent. is transported to the Bessemer plant, which is at a distance from the smelting plant, and re-melted before entering the converter. But at the works of the Boston and Montana, the Bessemer plant is under the same roof as the smelting furnaces, and built on opposite sides of a capacious pit, along which travels a powerful electric travelling crane, whose ladle receives the melted matte from the reverberatory, and pours it into the nearest empty converter. At all the Butte works, the converters are of the upright type, and differ from steel converters in general construction only in having the elevated tuyeres, as proposed by M. Manhés. It was by this important modification that M. Manhés overcame the difficulties which beset Mr. Holloway, and all the early experimenters in the Bessemerising of copper. The first person to introduce and apply on a large scale, in the States, the so-called Manhés process was Mr. Franklin Farrel at the Parrot Works, Butte, 13 years ago. At that time a 40 per cent. matte was blown up to white metal, tapped, re-melted, and then blown up to metallic copper. Now all the Butte works prefer to make a matte which will not be much under 60 per cent., and to blow that up to metallic copper at one blow. The reason why so rich a matte is employed is that no practicable way has yet been devised of introducing silica into the charge, and, therefore, the converter, being lined with a mixture of 90 per cent. silica and 10 per cent. of clay, the iron of the matte makes a slag generally with about 35 per cent of silica from the lining. Consequently, a lining becomes dangerously thin after six or seven charges, and must be repaired. This replacement of the converter lining is the heaviest operating cost, and its avoidance is the direction in which the most notable economy in Bessemerising will be effected. The most economical plan would be to add silica in valuable silicious ore to the charge itself. In practice it has been found, however, that if thrown in through the mouth of the converter, the silica simply floats on the top of the charge; if blown in through the tuyeres it clogs them, and each particle of cold silica seems to surround itself with a shell of chilled material, which apparently arrests further action till the particle has floated up out of reach of the matte. When silica can be added, either solid or as a very silicious slag, to the charge, and a basic lining can be used, it will be economical to treat a much lower grade of matte than is the standard in the Montana works. When lining material and labour is cheap, as at Leghorn, Italy, a 38 per cent. matte is blown up directly to copper. At the Philadelphia Works of the Messrs. Guggenheim, at Pueblo, Colorado, a small converter of a special type is used, lined with Grecian magnesite bricks. A fireplace is attached to the converter, and the charge of low grade argentiferous matte, after being melted in the converter itself, is blown under a blast of 5 lbs. pressure to white metal. Messrs. Raht, the managers, find that the loss of silver is insignificant up to that point, but becomes heavy when metallic copper commences to form in the converter. The slag thus made without the intentional addition of any silica contains iron 54·6 per cent., or if assumed to be as protoxide 70·2 per cent. of protoxide of iron; silica, 11·6 per cent.; alumina, 10·2 per cent.; and copper only 1·4 per cent. It would seem, therefore, possible to make a slag comparatively free from copper with so small a percentage of silica as to make it possible to use a basic lining either of magnetite, ilsenite, or highly aluminous clays. When this object has been attained there is really no economical limit to the poverty of the matte which can be Bessemerised. The second element of cost in Bessemerising is the power. Where large upright converters are used—as at the Boston and Montana Company's Works, at Great Falls—a pressure of 15 lbs. is required. Following the practice at Leghorn, Italy, and at Aguilles, in France, where a trough converter is used, and where, when metallic copper begins to form, the converter is tilted, so that the blast shall impinge upon the matte alone, the Copper Queen Company, of Arizona, decided to build a 5-ton converter of the same general design. It has been found to work as rapidly, to put through the same complement of matte, and to operate as regularly as the upright converters of same capacity, and to do this with a blast varying from 5 to 7 lbs. Its interior is more easily reached for patching when a defective point in the lining is detected after a run, and the dead weight is so much less than that of the very large upright converters, that it can be removed from and replaced on its stand by a hydraulic car almost, if not quite, as rapidly as the converters in the Anaconda and Boston and Montana works are handled by their huge electric cranes. In the smaller Butte works also, cars provided with mechanical devices and not electric cranes are provided for the same purpose. The third element of cost is in the losses incurred. There seems to be an almost universal concurrence of opinion that the losses both in copper and silver are heavier than by the old method. Mr. Stallman, who worked rich argentiferous mattes at Durango, Colorado, considers that the losses are dependent on the pressure of the blast, and increase with the increase of pressure. One of the large works, that has kept accurate account of their losses, is inclined to put the loss of silver at 2 per cent. greater than of copper, and the total loss of copper, including all preliminary operations and transportation, at a somewhat higher figure than when the old method was employed.

Mr. Douglas closed his lecture by describing the growth of the reverberatory smelting furnaces at the Argo Works, Colorado, leaving for his final lecture a description of what is being done in Colorado in the direction of pyritic smelting.

He said:—"The only other State where copper metallurgy presents features worthy of special note is Colorado. The possession of coal in the foot hills of the eastern range of the Rocky Mountains, which, though cretaceous, cokes when the coal measures are overlaid by traps, has made of Denver and Pueblo great smelting centres, devoted chiefly to the treatment of lead and its associated precious metals. But before the large lead works of to-day had come into existence, Professor Hill, of Harvard—since a United States Senator—had established the Boston and Colorado Smelting Company's Works at Black Hawk, in Gilpin county, for matting the sulphuretted concentrates collected in the gold mills of the district. At first the mattes were shipped to England, but since 1873, when Mr. Richard Pearce instituted the separation of the precious metals by the Ziervogel process, with certain modifications of his own, the mattes have been handled in the works. These have grown in size and in importance, and have been transferred to Argo, near Denver, where they can use the lines of competing railroads to draw supplies from other Western points, especially Montana. Mr. Pearce has not only modified the extraction method, but has made a wide departure from precedent in his smelting department. I have already described the Turret-roasting furnace, with which he replaced the Brown-O'Hara in his own works. He also uses what, I suppose, he can claim without contradiction to be the largest reverberatories for matting ore and concentrating matte ever built. For the following description of his last large furnace and its performance, and for the annexed very interesting table, showing the growth of the reverberatory in his works, I am indebted to him.

Year.	Dimensions of Hearth.		Area of Hearth.	Area of Fire Box.	Ratio of Hearth to Fire Box.	Tons Cold Ore Smelted in 24 hours.	Tons Hot Ore Smelted in 24 hours.	Tons of Coal Consumed in 24 hours.
	Ft. in.	Ft. in.	Sq. ft.	Sq. ft.				
1878	15 0	× 9 8	108	22·5	4,80? 1	12	—	5
1882	17 10	× 10 4	143	22·50	6,351 1	17	—	7
1887	21 2	× 12 8	201	24·75	8,161 1	24	—	9
1891	24 4	× 14 2	262	28·50	9,192 1	28	—	10
1893	30 0	× 16 0	390	32·50	12,?07 1	35	43	13
1894	35 0	× 16 0	458	32·50	14,630 1	—	50	13·5*

"Concerning the Britannia reverberatory smelting furnace, I send you a blue print, showing the increase in size of furnaces built at these works since the year 1878, together with a table, which, I think, needs no comment, except as regards the hot ore. In the latter part of last year we adopted a system for conveying the hot calcined ore direct from the "turrets" to the smelting furnaces, and this change has been followed by a considerable increase in their capacity. The charges consist of about 50 per cent. of this hot calcined ore, the remainder being barytic and silicious ore, cold as before. I have put in 50 tons per day as the average capacity of Britannia on hot ore. During the month of February it averaged 52·5 tons per day.

"This furnace is skimmed by four men through two skimming doors at each side. The front door is not used for the purpose at all, and only occasionally for levelling the charge. It taps on an average about every six days, the 300 tons of ore smelted yielding about 25 tons of matte of 35 per cent. copper, making the degree of concentration about 12 into 1."

The quantity smelted is not as large as that claimed for furnaces of smaller dimensions in Montana, but then the whole charge, and not a part only, is thrown hot into the furnace, and it is of much more fusible composition than that at Argo.

* This is the Britannia to which Mr. Pearce alludes. Mr. Douglas informs us that he has just received from him further statistics of a 10 days and 10 hours run.

NEWS from the Londonderry and the Wealth of Nations is now somewhat scarce. Lord Fingall is now at the former, whilst Mr. Charles Kaufman has reported very favourably on the latter, which bears a more permanent, though less sensational, aspect than it did in its earliest days, when the owners computed their wealth by millions. Mr. Kaufman has thoroughly inspected the mine, on which the work of development has been steadily proceeding, and his report has been sent home. The property has, it is stated, been taken over by the representatives of London investers, on the strength of the report referred to, which allows it to be understood that though the ore is of low grade, with the great facilities presented for deep working, and the enormous body of stone, which widens at depth, the mine gives every indication of permanency, and has immense possibilities.

THE Gates Ironworks, who for half-a-century have occupied two blocks between Madison and Washington streets, just west of the Chicago river, have removed to their new works, which front on Elston avenue, Bloomingdale-road, Redfield and Stein streets, Chicago. They will also have a branch office at Room 1205, Stock Exchange-building, corner of La Salle and Washington streets. The main machine shop is 75 feet wide and 330 feet long, of steel and brick, the steel work having been erected by the Pittsburg Bridge Company. A noticeable feature of the equipment is a 25 ton Morgan electric crane, of 50 feet span, running the length of the shop. The foundry fronting on Redfield and Stein streets is equipped with several cupolas, electric and steam cranes, and coke ovens. A prominent feature is an air furnace, where heavy scrap is melted. The power house, blacksmith, carpenter, and pattern shops are all combined in one building, with heavy fire walls separating the different departments. A Corliss engine, of their own make, drives two 100 k.w. generators, which in turn transmit the power to eight motors. The Chicago, Milwaukee, and St. Paul, and the Chicago and North-Western R.R. Companies each runs directly into the grounds. A locomotive turntable furnishes the key to every part of the works where cars can be loaded and unloaded. The largest building of all will be the erecting shop. Until this building is completed the erecting will be mainly done in the machine shop. They will start in their new premises with the good wishes of their friends all over the world.

COLLIERY WARNING.—The warning issued at the beginning of the week remains in force, a temporary break in the atmospheric conditions on Wednesday being followed immediately by the arrival of a new and well-developed anticyclone of great intensity. The barometer over the British coal fields being now higher than it has been at any time for several months past, the air in all parts having become very dry in consequence.

MEETINGS OF MINING COMPANIES.

WHEAL METAL AND FLOW.

A new company to be formed with Limited Liability.

A general meeting of the shareholders in Wheal Metal and Flow was held on Wednesday, at the offices, 14 and 15, Broad-street-avenue, the chair being occupied by Mr. J. H. COLLINS.

The SECRETARY (Mr. G. E. Collins) read the notice convening the meeting.

The CHAIRMAN then read the managers' report as follows:—

To the Adventurers.—Dear Sir or Madam: In sending you the enclosed notice of meeting we would draw your attention to the annexed statement of accounts for 20 weeks, which will then be presented. We have again to report an increased production of tin, accompanied by a lessened total value realised owing to the continued fall in the tin market. The overdraft at the bank has been increased from £220 15s. 11d. to the larger sum of £341 16s. 9d., but our other liabilities have been correspondingly reduced from £345 5s. 9d. to £57 9s. 8d. We are still unable to announce the receipt of any dividend from the estate of the late Right Hon. G. A. F. Cavendish-Bentinck. We are informed that this will be declared before the long vacation, and will probably prove somewhat larger than we have hitherto reckoned upon. There are indications of an upward tendency in the tin market, and we think the time has now come when we should make an effort to reorganise the company, and to bring in some fresh capital. With this object in view the following resolutions will be proposed:—

1. That in order to raise the capital necessary for opening up the Metal lode in the highly promising section of ground lying between Woolf's cross course and the valley flookan it is desirable to convert this company into one of Limited Liability, on terms giving each shareholder the right to an allotment of fully paid and partly paid shares proportionate to his holding in the present company.

2. That as a preliminary to this conversion the present shareholders be invited to apply for an allotment of the forfeited shares in the present company, and now the property of the company. Such shares to be allotted on payment of 2s. 6d. per share, not to be subject to further calls, and to rank equally with the existing shares in the subsequent allotment of fully-paid shares in the limited company.

3. That the managers be authorised and instructed to allot any balance of such shares not applied for by existing shareholders to any applicant at their discretion, on payment of the same amount of 2s. 6d. per share.

4. As soon as the allotment is completed, or sooner if possible, the managers shall settle all claims against the company, and make provisionally all the necessary arrangements for converting the company into one with Limited Liability, and for raising the necessary additional capital, such arrangements to be submitted for modification, approval, or otherwise to a special meeting of shareholders to be convened for that purpose at the earliest possible date.

Should you not be able to be present at the meeting, we shall be obliged if you will send us your views on these proposals, so that they may be considered at the meeting.

The CHAIRMAN then said: Gentlemen—The accounts and managers' report, presented to-day, set forth our present position with great clearness. As you know, we have for the past 12 months been paying off old debts and "marking time"—of course, not without some current loss. We think the time has now come for a forward movement, of which notice has been already given you. At our last meeting I advised the shareholders not to lose heart—nor to throw their property away—and I am glad to say that nearly everybody took my advice. I now advise you to take up the shares abandoned in the past by the weak and the nervous, and again I am glad to say that the advice has been already taken by several of the largest shareholders. If the shareholders generally will come forward now in a similar spirit, and enable us to clear the books as proposed, they will be relieved from further calls—they will secure a corresponding fully-paid interest in the proposed Limited company, and I have reason to believe that we shall be able to secure the new capital we require from outside, and to open up the important western section of the Metal lode which has hitherto been practically unworked. Gentlemen, I must put before you very plainly the alternative. If you do not support us, we shall be obliged to decline the applications we have already received as being insufficient, and we shall have to make a call of 2s. or 2s. 6d. per share to clear the books. Some of this you may or may not get back again when the property is sold, as it must be sold, for what it will fetch, but the return cannot be much, and others will reap where you have been so long ploughing and sowing. I cannot think that you will do this. It will be far better for you to secure the additional shares with your half-crowns, for they will be exchanged for fully-paid shares of 5s. as soon as our arrangements are complete; and if each shareholder will apply for as many shares as he now holds, the business will be done. Our largest shareholders have, in fact, agreed to this already. Gentlemen, I believe we shall have a better price for tin by the time our new ground has been opened up, and perhaps before. No commodity can remain permanently so far below its average price. Our black tin has realised £46 per ton, on an average of nearly 10 years. Our recent sales have only brought £28! I do not believe that this will continue; black tin has already gone up £3 10s. per ton since January, and we may fairly expect the upward movement to continue, while if the Metal lode should "cut rich," as it has done before more than once, we shall be more independent of the price of tin than any other mine in the county. Our mine is worth a determined effort; of course, no one can look into the ground and see what is there, but we believe the tin is there—we have already seen good indications in three or four places, and we mean to do now what should have been done years ago, and that is to sink in the lode itself and test it foot by foot; and we hope every shareholder will help us to the extent of his ability. I have letters from some of our largest shareholders, who express themselves in favour of the scheme, and promise to do their part in supporting it. If the other shareholders will do as these gentlemen have done, the first step in this change will be effected; and I think the second step will follow. But whether it does, or does not, it can make no difference to the present shareholders; for if they do not come forward in this way now, we can no longer let things go on as they have been going. We must make a call of about 2s. 6d. a share to clear our book, and you may judge (knowing something of liquidations) whether any considerable part of that 2s. 6d. will ever come back to the shareholders again. We have already have promises to take up 2,600 shares, but it would not be sufficient. The Chairman concluded by moving the adoption of the report and accounts.

Mr. DENNY seconded the motion.

The CHAIRMAN mentioned that he had received several letters from some of the largest shareholders of the company, in which they all expressed their approval of the scheme, and promised to come into the new company. No letter had been received to the opposite effect. If the shareholders were not inclined to accept the scheme a call of 2s. 6d. per share would have to be made, in order to clear the books, and while a small part of this might be returned to the shareholders, it would not be by any means considerable. Roughly speaking, they had received approval of the proposal to turn the concern into a Limited Liability company from shareholders representing 2700 shares, together with offers to take up 2600 shares. This number, however, would not be sufficiently large, and unless the proposal received the approval of other shareholders it would not be proceeded with.

Mr. SIMMONS enquired whether the lords would consent to the turning of the enterprise into a Limited Liability company.

Mr. G. E. COLLINS did not anticipate any difficulty in this matter

The CHAIRMAN did not imagine that there could be any difficulty so far as the lords were concerned. There was no doubt about there being a well-defined lode in the property. The company had in the past had tin from it, although not to any large extent. The amount of work hitherto done by the company had been very small. At present they were down 35 fathoms, but upon restarting active work he thought the first thing would be to drive on the 27. From the Old Wheal Metal in the past no less than 7000 tons of tin had been taken, and sold for £340,000, while the company working it paid £90,000 in dividends. Their company had undoubtedly the same lode running through their property.

The Rev. J. FIELD: Will the Flow help us at all?

The CHAIRMAN: The Flow wants what we shall supply—water; and so long as it lasts it will certainly help us, for, perhaps, a year or two.

The motion for the adoption of the report and accounts was then put, and carried unanimously.

The CHAIRMAN then moved, and Mr. SIMMONS seconded, the resolutions embodied in the agent's report, converting the company into one of Limited Liability, which were carried unanimously.

A vote of thanks to the Chairman terminated the proceedings.

ROTHERY BLOCK GOLD MINE.

Excellent Prospects of the Property.—Good News from the Manager.

The first ordinary general meeting of the shareholders in the Rothery Block Gold Mine (Limited) was held on Thursday, at the Cannon-street Hotel, the chair being occupied by Colonel Ross.

The SECRETARY (Mr. Newman Goldman) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—This is, as you are aware, the statutory meeting of the company, at which no accounts are presented and no business, in the common acceptance of the term, transacted; but I propose to take advantage of the first occasion on which we have the pleasure of meeting our shareholders to say a few words concerning the position and prospects of the company. We went to allotment on January 22, and we called on the vendors then to expedite as much as possible the transfer of the property. By the beginning of March all was ready, and the documents deposited at the office of the Minister of Mines; but owing to sundry delays there it was not until April 17 that we heard that the property had been regularly transferred into our names. Meanwhile we had been in communication with the Chairman of our local board out there, as to the selection of a competent man to commence operations. All was arranged, and we cabled to the Cape for the works to commence. Before speaking of the company I should like to say a few words concerning the gold mining industry of the Witwatersrand. I have prepared a sort of diagram representing in columns the proportionate productions of recent years. You will observe that in 1887 very little was turned out; but the amount steadily increased, until in 1892 there was a very large increase, due to the fact that a very great number of companies—which prior to that date had been getting ready—blossomed out into production. Consequently the increase in that year appears to be very large. In 1893 the increase was less in proportion, and that arises partly from the fact that every stamp was made to do a greater average amount of work per diem. Each stamp was made to do ½ ton more per day. There was some increase also due to an improvement in the methods of treating the tailings. In 1894 the increase arises from the vast number of additional stamps in use. At the same time the stamping power increased 2 cwts. per stamp per day. The average yield of gold per ton in 1892 was 12½ dwts. In 1893 it had risen to 13 dwts., and rather over ½. In 1893 the increase was owing to the larger quantity of tailings and concentrates treated, and to the improvement in chemical science, enabling us to get more out of these. In 1894 there was no material difference in this respect. In 1893 the average value of the tailings appears to have been about 5 dwts. per ton. The returns, however, are not satisfactory, and I do not rely on that figure. In the following year, however, accurate returns give the average at 4 2 5 dwts. In 1893 only richer tailings were treated; during the following year we found we could treat poorer tailings to advantage. A great loss has also been incurred on the slimes which were left. Hitherto they have never been considered of any commercial value, but a plant is being erected at this moment at one of the largest gold mines in the Witwatersrand to treat thousands of tons per month of these slimes. We shall look to that experiment with very great interest. Then there is always the question of labour, which has been difficult to procure, and expensive; but owing to the energetic action of the Witwatersrand Chamber of Mines the Government have passed, or are about to pass, laws materially affecting the labour market, the result of which will be that labour will be more plentiful and less expensive. Coal is also an important consideration there, for a great deal of fuel is used. Last year the output was 700,000 tons, and it is increasing. Not long ago I read in one of the papers here that the Great Eastern Mine, situated somewhere about 16 miles east of Johannesberg, had struck a seam of coal 63 feet thick, of which at least 40 feet was good coal. That is a prodigious quantity. Everything, therefore, points to a cheapening of fuel. Now, in the report on the Rothery Block which accompanied the prospectus, something was said about the dip of the reef. We were told in the first instance, that it dipped towards the west, but there was no reason to doubt that it would be found ultimately to trend towards the east, in conformity with the reefs of the district generally. Now, if that contention is borne out, we shall find we have a very considerable addition to our reefs that will be, of course, to our advantage. You may ask the old question:—Do these reefs pinch out, or do they become richer as we go down? An experiment has been tried out there, which conclusively sets that matter at rest. In the report of a very able speech delivered by the Chairman of the Chamber of Mines, at a meeting held at Witwatersrand, on January 12, 1894, he said that experiments had been tried, and they had struck the South reef at a distance from the surface of 2343 feet, that it was 13 inches wide, assayed 1 ounce 3 dwts. to the ton, and that 48 feet below that they had struck the Main reef. It was 9 feet wide, and the average of nine assays was 1 ounce 15 dwts. per ton. That, I think, pretty conclusively sets at rest the question whether the reef pinches out or becomes richer in depth It becomes richer with depth. As the President said on that occasion, the importance of that point cannot be exaggerated. You will say that the expense of working at this depth will become greater; but this is not so. Methods of working are cheapening. There is no great quantity of water to handle, so that everything points to the conclusion that if our reef is deep we shall be able to get near to it to our advantage. I have briefly brought to your notice some of the circumstances governing the gold industry of the Witwatersrand—I use the word "industry" advisedly, because I think we are justified in calling it so, for the production is stable. Science is helping us to get the reefs out and crush them to the best advantage. Chemical processes are improving every day. According to the *Standard and Diggers' News*, of Johannesburg, of April 13, at a meeting of the Geological Society, the President said:—"There is nothing in the known world approaching the Banket reef of Witwatersrand, either in the extent of country through which it is found, or the average uniformity in richness; and the extent of its capabilities is not yet known. If we consider that within the past 12 months there has been an output of gold to the value of seven million sterling, and when from the working of new companies and from the more scientific methods of treating the ores that this output is steadily increasing, we may feel confident that there is sufficient reason for the fact that these gold fields form the centre to which the whole civilised world is looking with eager expectation. In our prospectus there was an estimate given of the principal profits we may expect to derive. Well, I have been at some pains to endeavour to check this by means of the light of the latest knowledge, and I have been guided by the results obtained annually by our nearest neighbour—the Randfontein, the reefs of which run directly through our property. I have taken their yield of gold; and it amounts to a dividend upon our capital so large that I would rather not calculate upon that. But I have taken one-third only of the mining yield of the Randfontein, and a little more than one-half of their cyanide process results, and I find that the estimate given in the prospectus was not at all out of the way, and I look forward presently when we get into good working to very comfortable dividends, indeed, on our shares. I am sorry to have detained you so long, but there is another point I should like to refer to before I sit down. First of all, a cablegram arrived yesterday, informing us they were sinking the prospecting shaft on the reefs, and that the compound and manager's house were already built. This morning the following cablegram was delivered:—"Struck leader, the western boundary resembling Randfontein's leader. Pannings give excellent results."

A hearty vote of thanks to the Chairman concluded the proceedings.

MYSORE REEFS (KANGUNDY).

Reconstruction successfully completed.—Mr. Edgar Taylor on the property.

The first ordinary general meeting of the Mysore Reefs (Kangundy) Company (Limited) was held on Tuesday, at 6, Queen-street-place, Mr. J. HARVEY presiding.

The SECRETARY (Mr. John Garland) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—This, as you know, is a more or less formal meeting, being the statutory meeting held in accordance with the Act of Parliament, which prescribes that within four months after the formation of a company a meeting of shareholders must be held. But, although this is a formal meeting, we are always glad on this side of the table to meet our co-proprietors, in case they may be desirous to ask for information which they might not otherwise get. At the same time, they practically know as much about the company as we do, for the reports and telegrams are sent to the papers as soon as they are received. This company, as you are aware, is a reconstruction of the old Mysore Reefs Company, and I may mention that the reason why we put in that word "Kangundy" was to please the Zemindar, who is the principal man who owns the territory, and to whom any royalties are payable. He was very anxious to have the words "Mysore Reefs" cut out altogether, but that would not have suited us at home. The "Mysore Reefs" is known on the market—(hear, hear)—and if we had started with an altogether fresh name it would have been a disadvantage to the shareholders. So we made a compromise with him, and pleased him by putting the word "Kangundy" into the designation of the company as it formerly stood. I may say that the reconstruction is a success. Practically all the shares have been applied for; there may be a very few left, but we anticipate that every one will be taken up. Therefore, in that respect we may congratulate ourselves on having made a successful issue of the shares. In regard to what has been done at the mine, I do not propose to detain you at any length, as Mr. Edgar Taylor, who has recently returned from the property, will be very glad to give you the latest information concerning it. At the same time, I should like to read you one or two sentences from a private letter from one of the directors who has been visiting the mine—Mr. Forbes. He says: "I have been here for some days looking into matters about the mine, and it may interest you to know that I am highly pleased with all I have seen. A great deal of excellent work has been done, but for very little money, both above and below ground. The lode looks best at the deepest point touched, and as we get below the level of the valley we should meet water, when the ground should be less hard." The question of water has been rather a difficult one, and there had been so much drought in the district that we resolved not to run the stamps until we should get some rain; but—and this is a curious coincidence, and is not a pre-arranged matter, for our manager there did not know this meeting was to be held—yesterday this telegram arrived, "120 tons of quartz crushed has yielded 128 ounces of retorted gold." I think you will consider that satisfactory. We are making arrangements, by sending out a sufficient number of pipes, to convey the water from some distance where there is a perpetual supply, and as soon as we get these pipes put down, there will be continuous crushing. In the meantime the quartz is being stacked, and our attention is chiefly devoted now to developing the mine. The last clause in Mr. Forbes' letter reads: "I think the mine will prove a success, but as our capital is not large, much depends on the rapidity with which it can be opened out. With the new compressor and 12 new drills rapid progress could be made." Captain Scantlebury, of course, takes a very favourable view of the mine generally. I will now ask Mr. Edgar Taylor to give you some further details with regard to the property.

Mr. EDGAR TAYLOR: Gentlemen—As I have so lately returned from a visit and inspection of your property, the Chairman has called upon me to give you the latest information from the mines. Since the statement made to you by my brother at the general meeting of the company on 18th July last, vigorous work has been carried on at the mine. The Underlie shaft has since then been sunk 102 feet, making a total depth of 363 feet, or 38 below the 325, or bottom level. Of this more recent sinking 65 feet was in a productive lode, not of high quality, but varying from a few dwts. up to 18 dwts. per ton. It is encouraging, however, to be able to tell that the last two reports from the mine indicate an improvement in the size and quality of the lode at this point, the latest report showing a width of 1 foot, and an assay value of from 15 to 18 dwts. The 250 feet level has been driven north 105 feet, and communicated to the 200 feet level south from vertical shaft, the lode varying in width from 1 foot to over 3 feet, and carrying from 6 dwts. to 3¼ ounces of gold per ton. The 250 south was extended 100 feet, and is now suspended, as all the rock-drills have had to be employed elsewhere. The lode in the end is small, but throughout the distance driven has been from 1 to 1½ foot in width, and the assays have ranged between 4 dwts. and 2 ounces 7 dwts. A winze below the 250 feet level north was put down 37 feet, and communicated with the 325 feet level by holing to rise. This connecting rise, taken together with the winze for about 70 feet, has exposed a lode 1 foot 7 inches wide, having a value of 19 dwts. throughout; this indicates a good piece of stoping ground between the two levels. The 325 feet level north has been driven 124 feet, in lode all the way, from 8 inches to 3 feet wide, and worth from 5 dwts. to 3 ounces. The level is still being pushed on. A winze under this level is down 44 feet (a few feet deeper than the shaft, and, therefore, the deepest point in the mine). This winze has been sunk on a capital lode, the size varying from 1 foot to 2 feet, and the assay value ranging from 1½ ounces to 2 ounces. A level is now being driven south from the bottom of this winze back towards the shaft for ventilation; this level is in a strong lode, giving ¾ ounce to the ton. At the date of the meeting—in July last—the Vertical shaft was 200 feet deep; it has since been sunk 60 feet, and a crosscut driven east at 260 feet depth, has intersected the lode, which has since been driven on north 107 feet; it being from 1·3 feet to 2 feet in width, and assaying 8 dwts. We may, however, look for improving prospects in this shaft, as a winze under the 260 north is looking well, the lode being 3 feet wide, assaying 10 to 14 dwts. per ton—a decided improvement upon the value of the level itself. It is not a big mine, but I think you will agree with me that the points I have described show a prospect of a very good future. (Hear, hear.) The surface indications convince me that we must extend our present underground operations both north and south, as old workings are distinctly observable in both directions. These extended operations will be greatly facilitated by the new air compressing machinery and increased supply of rock drills, which we hope soon to have ready for use. I may tell you that all the machinery now on the spot is well erected and in good working order, and that we hope soon to overcome the difficulty of shortness of water supply by laying a line of pipes to a pumping station, where water is available, in the extreme southern end of the property. Captain Scantlebury and his staff deserve much credit for the rapid and economical work they have carried out since the operations of the company were transferred to the Valley Block. They have had an arduous task. They have moved to quite a new part of the Colar field, where communication has been difficult, but many difficulties have been overcome recently. Captain Scantlebury has been able to arrange with the Madras Railway Company to erect for him a special railway station, and he has now constructed a road between the property and that station, which is only 3 miles from the main portions of the mine. As soon as he has finished

building a bridge across a watercourse, he will be able to carry his machinery and fuel by that means, instead of bringing it by the Gold Fields State Railway, which is a considerably greater distance, and would involve increased cost. In conclusion, it will be noticed that we have not yet at the shallow depth attained opened up any large extent of rich ground, but we are steadily developing milling ore of good quality, and in the deeper parts of the mine, as I have shown, we are meeting with a larger, richer, and more settled lode. I think we may, therefore, look forward with considerable confidence to meeting with more extended shoots and more valuable ground as we develop the mine in greater depth. (Applause.)

Mr. BROUGHAM expressed his great gratification at the report presented by the directors, and his approval of the policy being pursued by them.

Mr. SWAFFIELD moved a cordial vote of thanks to the Chairman, directors, and managers for the able manner in which they had managed the affairs of the company.

This was seconded by Mr. BROUGHAM and carried, and the CHAIRMAN having briefly replied, the proceedings terminated.

SOUTHERN JUMPERS, LIMITED.

Splendid reports of the property.—A unity of testimony as to its value and prospects.

The ordinary general meeting of the shareholders in the Southern Jumpers (Limited) was held at Winchester House, Old Broad-street, E.C., on Thursday, the chair being occupied by Mr. CHARLES RONALDSON.

The SECRETARY (Mr. J. Sadler-Wood) read the notice convening the meeting.

The CHAIRMAN, who was received with applause, said: Gentlemen—It is now my pleasant duty to lay before you, necessarily in some little detail, a plain statement respecting the claims on the farm E'andsfontein, in the Witwatersrand, which have been acquired by this company, and which we are about to develop with all possible celerity, yet bearing in mind the wise axiom, "Hasten slowly." It will not, I hope, be deemed out of place if I preface the few observations which I have to address to you by glancing at what I take to be one of the most striking phases of 19th century gold mining. I mean the marvellously tenacious grip in which South Africa holds the most important sections of the investing world. The vast wealth—the incredibly vast wealth of the South African continent has been literally brought to our doors, and if there have been some few disappointments—if we have occasionally been mortified by the tardy but certain discovery that "All is not gold that glitters"—the regrets have been in inverse ratio to the delights experienced by investors when the golden stream flowed their way. At the present moment West Australia and South Africa would seem to be running a neck-and-neck race for popularity, and it will be curious to watch the result, and see which of these two gold-producing countries possesses the greater power. I am not going to take upon myself the thankless office of a prophet. The world is wide, and it is abundantly evident that there is room enough in it for both. But, while Western Australia has been, and remains, to a great extent, undeveloped, South Africa has made a stride ahead, according to the latest mail news from Johannesburg, which tells us of one property that promises to pay 100 per cent. in June, while there is as much activity as was ever displayed in the initiation of new enterprises. All our most recent information from South Africa seems to confirm the opinion, expressed by many experts, that there lies at varying depths underground a practically inexhaustible supply of that precious metal which there is every reason to believe we shall be shortly extracting from our property within an easy walk of Johannesburg. I say there is every reason for believing this to be the case, because those experienced men, whose reports we have in our possession, are distinguished by a moderation of opinion and an absence of romantic phraseology, which I can but think highly gratifying. Your property, allow me to remind you, is situated on what is known as the Natal Spruit, four or five miles only south-eastward of Johannesburg, and consists of a block of claims, of the auriferous wealth of which expert opinion speaks highly, yet not, I venture to say, too highly. The mining operations already practised disclose, in the technical language of Mr. Champneys, "three distinct strata of banket formation, enclosed within sandstone walls running throughout the entire length of your property." These are the north, the middle, and the southern reefs—their respective thicknesses being 8 feet, 2 feet 6 inches, and 4 feet. Numerous workings intersect the whole formation, disclosing a milling matter throughout varying in richness from 5 to 12 dwts. per ton milling value. But, gentlemen, let me here, and before adverting to a most important matter,—namely, the plentiful, and more than plentiful, water supply—give you the precise words of Mr. A. T. Champneys, who, towards the end of last year, visited and examined our claims. This well-known mining engineer says, in the general observations which he has made respecting the claims: "I must inform you, while taking into consideration the value of the reefs which have their outcrops on your claims, that the whole of the Main reef series (which means the Jumpers and Geldenhuis Estate Companies reef) all dip immediately under your property, and also the late rich strike of the Rand Fields, known as the East Rand Proprietary Mines, which assays, according to Standard Bank assays, over 4 ounces to the ton, which ground is situated immediately to the north of your property, and consequently would be struck in your property at an easy mining depth." It is important that you should have your attention directed to the concluding passages of Mr. Champneys' report, inasmuch as they contain matter of much interest. We are assured that "the series of reefs traversing the property" (our property that is) "have been located by several eminent geologists, and are considered to be the Elsberg, or what is more popularly known as the Chimes and Van Ryn series. Your facilities for working the property are most favourable; the reefs are most distinct, the natural formation of the ground adapting them for economical working; and I consider that the reefs, after being exploited to a depth of 100 feet, would warrant the erection of a 100-stamp mill." These, then, gentlemen, are among the natural advantages which go to make our property an exceedingly desirable one in every respect, for you will not fail to have noticed what Mr. Champneys says in regard to the economical working of the whole of the ground consequent on the very distinct appearance of the reefs throughout. "Owing to the natural facilities above mentioned," continues the report, "there is no reason to doubt that a small expenditure would entirely prove that the mining and milling with cyanide works should give a very handsome return, as the total cost of working the same should not exceed 3 to 4 dwts. per ton, which would allow an ample margin for profits. Fire assays since made from samples taken from the workings give as high as 1 ounce 5 dwts. to the ton. This is an average from open works." And the final words in the report are:—"I beg to say it is my distinct opinion that this property is a valuable one, and under judicious management should yield handsome returns." So much, then, for Mr. Champneys' report, which we may characterise as admirable in its directness and highly satisfactory in its lucidity. There is, however, an important addendum to his report. It tells us that, acting on our instructions, he has extracted and crushed a ton of ore, and the result of that crushing gives 18 dwts. per ton over the plates. That, you will observe, is close upon 1 ounce, which you will, I feel sure, agree with me in thinking exceedingly good. Then, speaking presumably of the tailings obtained after passing over the plates, he assures us that the cyanide test (and you are all aware of the leading part which cyanide is now beginning to play in gold extracting) shows from 4½ to 5 dwts. per ton; "but this," he adds, "should not be taken as strictly accurate," inasmuch as it was taken "from so small a quantity." I now pass on to what, in a later and supplementary report, he has to say on the subject of "pannings." Well, he says: "Samples taken from your property have given a decided panning result of 10 to 12 dwts. free milling per ton of 2000 lbs., and, in my opinion, you are bound to strike the main reef at a depth of about 2000 feet. There are five distinct reefs running through the property, varying in assay value from 8 to 18 dwts. per ton of 2000 lbs. These reefs have an average thickness of 2 to 3 feet each, and in some parts become contiguous. The working of them should be done at a very small cost, as they could be mined together on the well-known pillar system. With such facilities as (1) well-developed properties proved beyond doubt and good paying ores in the immediate neighbourhood; (2) excellent water rights; and (3) easy working commodities an established fact, your property bids fairs to become what it is meant for—a real gold mine—and you can be congratulated upon having secured such an excellent property." Well, then, we have also, in strong corroboration of the above, reports from Mr. St. Vincent Erskine, Government land surveyor and mining engineer; from Mr. D. L. Young, late mining expert to the Northern Gold Fields Exploration Company; and from Mr. J. Nicholls, M.E. Mr. Erskine, in his report, dwells, not unnaturally, on what he calls the phenomenal result of gold production on a reef in the vicinity of the Southern Jumpers, and reminds us that our claims are on the Kimberley series of outcropping reefs. That our property is in exceedingly good company may be gathered from Mr. Erskine's statement that on a certain reef on this same Kimberley series "from 8 to 60 ounces of gold to the ton have been produced from numbers of specimens." He adds (and I think this passage of his report both valuable and important): "The recent experience gained of the value of heavy stamps, cyanide processes, pneumatic drills, and the impetus given to the gold industry by the openings of railways to the seaboard, added to the experience gained and the new discoveries made, remove the risks of mining this series of reefs from a speculative aspect to that of any other sound and profitable industrial investment, and have completely revolutionised the prospects of the Kimberley series of reefs, so that you, having in these claims the pick of all the claims along that series, may be considered to have a valuable investment to offer to the mining public." Next, we have the report of Mr. L. D. Young, who tells us that "the apex or outcroppings of several well-defined reefs are to be seen on the surface, ranging from 2 feet to 3½ feet in thickness, all dipping to the south, and well exposed through the open crosscuttings and two shafts—one 30 feet in depth, situated to the north-east of the claims; and another 50 feet, situated in the centre of the claims." Mr. Young asserts that these reefs, when fully opened up, will "supply ample paying material to keep 40 stamps continually running for years," and he proceeds to point out that the great feature of this property to a number of well-developed and successfully-worked reefs, "all of which," he remarks, "will be struck at no very great depth from the surface." I must now touch for a moment on the other great natural advantage possessed by our property, which I only hinted at a few minutes ago—I mean our water right, and I think I cannot do better than reproduce Mr. Young's own words on this point. "Fed," he says, "by two streams, the Natal and Geldenhuis Spruits, the formation has been so ably assisted by Nature that, by the additional help of a small dam at the most southern extremity, an enormous quantity of water could be held, which, in the event of dry seasons, could be turned to very great use and profit in assisting neighbouring mines which have not been so fortunate in their water rights." It is most encouraging to know that under no possible circumstances can we ever be threatened even with that terrible drawback to successful mining—a water famine. Again, it is cheering to know that both white and native labour is very plentiful in the country, and also that by the railway connection of Johannesburg with the sea-coast there is a sensible reduction of mining expenses, thus allowing of far greater returns than were possible when the fields first began to be worked. Lastly, there is the report which has been furnished to us by Mr. J. Nicholls, M.E., which may, I think, be fairly characterised as a *multum in parvo* report. Mr. Nicholls "finds outcrops of 10 different banket reefs on the property, and also three others 250 feet north of your boundary-line dipping into your claims, each one about 2 feet thick, and in panning they show free gold." Mr. Nicholls asserts that, one of our reefs appears to him to be the same as the one now worked on the same series of reef by a well-known syndicate with good results, "giving assays of over 5 ounces per ton in some parts of their mine at the 100 feet level." He tells us farther that panning from our reef "A" at the surface "gives milling results 1 ounce free gold per ton." Respecting this particular reef "A," he adds: "I consider this to be a payable body of ore in sight from the surface, and that it should yield profits in case a fair amount of cash be expended on this reef, which is not the same as mentioned in regard to the east and west shafts, but an entirely separate reef, further towards the northern boundary line, and in consequence will give over 1800 feet along the line, and 1200 feet on the line dip." Mr. Nicholls thinks it unnecessary to say anything more in support of this line of reef, inasmuch as its value is amply proved by "its situation on the Main reef, by the payable ore on the property, and by the rich discoveries made by other companies on the same line up to 25 ounces per ton." You will be glad to know that a final crushing of 10 tons of quartz gave 18 dwts. to the ton, and that an assay by Messrs. Johnson, Matthey, and Co., assayers to the Bank of England, gave over ½ ounce of gold to the ton, and that assays of quartz made by the Bank of Africa at Johannesburg from the north reef on our property gave 1 ounce 7 dwts. of gold to the ton, and from the south-east shaft 13 dwts. I could say much more on the subject of the claims which form the property of the company, but in the rapid summary which I have now had the pleasure of presenting to you, I think—at all events, I hope—I have touched on the most salient points, without dwelling too lengthily on the minutiæ of the undertaking which we have in hand. In the history of all gold-mining operations there is always a certain amount of romance; that is an element which I have not ventured to introduce into my statement. But, while I have studiously refrained from speculative imaginings, I have no desire to underestimate the probability which this property of ours offers of becoming agreeably remunerative to its possessors. Looking dispassionately at the documentary expert evidence which is before us, recognising the undoubted and indisputable fact that our property is situated in the midst of a very extensive region immensely rich in its auriferous products, and remembering also with what comparative cheapness our claims can be worked (thanks in a great measure to their natural advantages, which, as I have indicated, are no mean ones), I really think, gentlemen, that there is every reason to congratulate ourselves on the possession of so exceptionally promising a property, and one which bids fair to prove richly remunerative to all who interest themselves in that process of development, upon the threshold of which we now stand with every confidence in the result. In conclusion, I may remind you that the capital of our company is very small, being only £75,000. That will, I am sure, give us an opportunity of showing that so small a capital is a great advantage to a company such as ours. I thank you very much for the careful and attentive manner in which you have listened to my remarks, and I think the extracts I have given to you to-day will show that the most favourable results are in prospect. (Applause.)

A SHAREHOLDER, having thanked the Chairman for his very able and lucid speech, said he had two questions to ask—first, what was the distance between the water-right and the property, and, secondly, whether the directors had considered any method of getting the gold from banket, other than stamping. In the George and May Mine they had found, simply with a Gates crusher roughly crushing banket and putting it through the cyanide process, that the gold was successfully won. Another process which was coming to the front and did away altogether with the cyanide process, was that of separating the pebbly matter from the matrix and leaving only the matrix to be treated. This could be done at about half the ordinary cost.

The CHAIRMAN, in reply, said the board were very much indebted for the very salient remarks of the last speaker. As to the water right it was attached to their own property, and would not only yield them as much water as they required, but would enable them to assist other neighbouring mines during the drought which was fairly common in the country. With regard to the mining points raised by the last speaker, the company had the advantage of the advice of engineers fully posted in all the latest processes, and the working of the company would be conducted on the latest and most economical system. (Applause.)

A hearty vote of thanks was accorded to the Chairman for his able and lucid statement, and an appropriate acknowledgment of the compliment, in which the CHAIRMAN assured the shareholders that everything possible would be done to ensure the success of the undertaking, terminated the proceedings.

LUIPAARD'S VLEI ESTATE AND GOLD MINE.

Preparations being made for crushing.

The seventh ordinary general meeting of the Luipaard's Vlei Estate and Gold Mining Company (Limited) was held yesterday at Winchester House, Mr. HERBERT G. H. NORMAN presiding.

The SECRETARY (Mr. Henry D. Boyle) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—We have come here to-day that you may receive the report of the directors and the statement of accounts for the year ending 30 h June, 1894; but as we wish to give you the very fullest information in our power, I shall not stop there, but will tell you exactly how things stand up to the present time. The meeting is, of course, much later than it should have been. With the best intentions we kept putting it off in the hope that we might have something of real importance to lay before you, but I am sorry that that cannot be done, and that once more I must ask you to be patient. We are advised that the work at the mine is not at present sufficiently advanced to authorise the erection of the crushing machinery, as there is not sufficient ore in sight to keep 40 heads of heavy stamps going, and it is certain that we cannot work economically with a smaller battery. The expenditure during the year, up to 30th June, 1894, has been £23,469, and I will explain hereafter how that amount has been arrived at. Since that date we thought it advisable to limit the expenditure to £650 a month, and very fair progress has been made from then up to the present time. After the opinions of the three experts we have had there can be no doubt as to the value of the mine. Some very good stretches of mineral have been laid open, but the faulted nature of the reef makes the development a very long and tedious process, and, as I explained to you last year, it would be worse than folly to erect the crushing machinery, and then have to stop work for want of mineral. At the same time, I wish to point out that this delay is not an unmixed evil. Improvements in the machinery are constantly taking place, and as it will take from six to nine months from the date of ordering to erect the mill, we shall have all that time to the good for further development, and we can, if we think it advisable, push forward with the work much more rapidly than we have been doing. (Hear, hear.) The west battery portion of the reef has again been let on tribute to responsible parties on satisfactory terms and with sufficient guarantees. We have printed and sent you Mr. F. White's report *in extenso*; it speaks for itself, and is, on the whole, very satisfactory. Mr. Hammond, the chief engineer of the Consolidated Gold Fields of South Africa, has gone out to inspect the mine, and to report how soon we shall be justified in ordering the crushing machinery. He arrived in South Africa on April 16 last, and his report may now come to hand at any moment; and, of course, until we have seen it it is impossible to forecast what course we shall have to adopt. Throughout the whole of the Luipaard's Vlei farm there has been a very considerable renewal of enterprise. Fresh claims have been pegged out, and the revenue from leases has increased to £5684, as compared with £4744 for the previous year, and there is a still further increase during the last few months, so that we may confidently rely on a considerable increase in revenue from that source for the current year; and the tree planting, under Mr. Lowrey's management, is going on most satisfactorily. I must now call your attention to what has taken place since June 30, 1894, on two important points. You must all be aware that there has been a very considerable boom in the market value of our shares. I know nothing about it personally, but am informed it is due to Paris speculations. We took advantage of this in the interest of the shareholders, and sold the balance of the 5997 unissued shares at 21s. 6d., which was the market price of the day, giving us £6371 15s. 3d. net. In deference to the wishes of some of the shareholders, we have called up the remaining 10s. on the 25,000 shares, giving us £12,500. These two sums together amount to £18,871, and after deducting the amount advanced to us up to date from the Gold Fields (say) £10,000, will leave us £8871 balance, sufficient for some eight or nine months' development on the mine, and leaving intact the original offer of the Gold Fields to advance us £40,000 at 8 per cent., if and when required. This rate of interest is somewhat high, and it will be a matter of consideration for the board whether they cannot obtain the requisite amount of capital direct from the shareholders themselves on easier terms, but the scheme has yet to be very carefully thought out. (Hear, hear.) I now have a few words to say to you on the accounts. First of all there is the sum of £23,469, which was the expenditure during the year on the mine. This is made up in the following way. If you look under assets you will see outlay in developing mynpacht, less proceeds of gold won, £11,736. Then if you look at the revenue and expenditure account you will see expenditure in London £904 odd; expenditure in South Africa £3062 odd. From that has to be deducted the proceeds of sale of Midas and Champ d'Or shares, applied in reduction of cost of acquiring estates, £518 odd. That works out at the sum of £23,469. Under capital and liabilities there is the item of sundry creditors in London and South Africa, amounting to £1159; that has almost all been paid off. The expenditure in London, being directors' fees, rent, salaries, &c., comes to £904; and the expenditure in South Africa—directors' fees, management, rent, stabling, &c.—to £3062. The chief items under the latter head are directors' fees, £300; stabling, advertising, printing, audit, £470, of which £420 is for stabling; rent of mynpacht and licenses, £442, the rent of mynpacht being £162, and the remainder being what we pay to the Government, we getting half that back again; law costs, £409, being due to protracted litigation as regards some water rights out there. On the assets side you will see sundry debtors £1783; that is money due from the Government for licenses, and has since been collected. As regards the profit and loss account, that amounts to £10,256, and that has all been invested in the development of the mine. That is all I have to tell you of any importance. I now beg to move—"That the report and accounts be adopted." I shall be glad to answer any questions that may be put to me, and anything as regards mining, my colleague, Mr. Quentin, has kindly consented to answer, as he is more conversant than I am with that subject. (Applause.)

Mr. LEIGH HOSKYNS seconded the resolution.

Mr. OLDREIVE enquired where the developments were taking place for the proposed 40 head of stamps. He also wished to know whether the board intended to adopt the new process for the treatment of ores which was being used on the George and May property with great success. He believed they had the same reef as the George and May, and the direct cyanide process enabled them to treat their low grade stuff at a profit, without running the ore over the plates.

Mr. PHILPOTT asked what was the total extent of the property, and was informed by the Chairman that the mynpacht itself was about 1070 acres, while the whole farm was between 6000 and 7000 acres.

Mr. CECIL QUENTIN said the board could not at present say for which particular part of the property the 40 heads of stamps would be erected, and that was the very reason that their erection had been delayed. They were developing on four or five parts of the

property, and very likely the 40 heads of stamps would treat the stuff from two parts—the north-east and south-east—being erected midway. As regarded the Battery reef mines proper, they would have to be worked separately by other stamps which were on the ground, and which might have to be increased. As to the direct cyanide treatment of the ores, the matter had the earnest attention of the board and their managers, and, he thought, of every technical man connected with the Rand. He could not say at present whether that process would be adopted for their pyritic ore from the lower workings. That treated by the George and May had been nearly all oxidised ore, obtained from near the surface, and he believed it had worked with wonderful success. Referring to the delay in erecting the machinery, Mr. Quentin remarked that the board were looking a long way ahead, and were really losing no money by waiting.

The resolution was then put, and carried unanimously.

The retiring directors, Mr. Norman and Mr. D. A. Scott, having been re-elected, and the auditors, Messrs. Turquand, Youngs, and Co., having been reappointed, the proceedings terminated with a vote of thanks to the Chairman.

TRANSVAAL PROSPECTING COMPANY.

Reconstruction agreed upon.—A West Australian property to be worked.

The annual ordinary general meeting of the Transvaal Prospecting Company (Limited) was held on Tuesday, at the Cannon-street Hotel, E.C., and was followed by a special meeting for the purpose of considering a scheme for reconstruction,—Mr. G. F. TAVENOR (the Chairman of the company) presided.

The SECRETARY (Mr. F. W. Sellick) read the notice convening the meeting.

The CHAIRMAN moved the adoption of the report and accounts, remarking that this company had been no exception to the almost universal misfortune which had overtaken so many undertakings through the intense depression of the last four years. He hoped, however, he could give the shareholders some hope with regard to the future. He would deal now only with the report and balance-sheet. It would be seen that they had a total issued capital of 75,000 shares; they had in hand, out of the 15,000 shares originally given to the shareholders, a total capital of £15,000, with which the directors had done all they could to obtain good results for the company. They had ventured upon several operations, but one which had been a complete drag upon them, and which ultimately pulled them down, was the Citizen Gold Mining Company, which had caused them an immense amount of trouble and worry. They possessed a large interest in that company, amounting to some 19,822 shares fully-paid, and a further amount of 7132 shares on which they paid £1 per share. The Citizen Company had taken from them all their resources, and made them realise their securities at a ruinous loss in order to pay calls. That the Citizen Company was a good property was being proved. It now stood before the world as the New Rand Gold Mines (Limited), and was doing very well. A time arrived, however, when the Transvaal Prospecting Company had no longer the means to meet the calls. They were given very hard terms—were, in fact, told that they must either pay the calls or the shares would be forfeited; therefore, what the directors did was to mortgage the company's interest in the Citizen for a sufficient amount to cover the calls in question. If the Citizen had then turned out all right, all would have been well; but it did not do so. So far from that, it went into reconstruction. Consequently this company had an item in its accounts which appeared as Citizen shares in suspense, which amounted to £4955. The directors had been able to do nothing but wait quietly until the present time, when they were able to come before the shareholders to promulgate what they considered a promising scheme for re-habilitating the value of the shares in the hands of the new company. From the accounts it would be seen that the amount for directors' fees was a large one; but he had to announce that if this company were reconstructed, the directors would waive all these fees. (Hear, hear.)

Mr. RHODES seconded the motion.

Mr. R. E. STEPHENS enquired what were the assets of the company.

The CHAIRMAN said the company had, practically, no assets apart from the sum in suspense, but it was solvent.

In answer to Mr. R. V. BARROW, M.P., the CHAIRMAN said against the £59,603 which appeared for goodwill must be taken the 60,000 shares, of £1 each fully paid, issued to the vendors, appearing on the other side. He could not give an opinion as to the value of the £4955 in suspense, for it was purely a legal question.

Mr. SOUDAMORE proposed, as an amendment, that the accounts be received but not adopted, which was seconded by Mr. SCOTT, but lost on a show of hands.

The report and accounts were then adopted.

At the extraordinary general meeting the CHAIRMAN proposed the following resolution:—

> That the company be wound-up voluntarily under Section 129, sub-Section 2, of the Companies Act, 1862, and that Frederick William Sellick, of 10, Bucklersbury, in the City of London, be and he is hereby appointed liquidator for the purpose of such winding-up.

He thought the scheme which the directors were submitting was one which the shareholders should receive as offering favourable terms. They had the opportunity of purchasing, under exceptional conditions, a property in Coolgardie, Western Australia, called the Bayley's South Consolidated Mining Lease, which was a block very close to the Bayley's Reward. The various reports attached to the circular would have shown the shareholders what were considered to be the prospects by some of the most competent authorities on the field. It was proposed to form a new company, with a capital of £75,000, in 300,000 shares of 5s. each, credited as 2s. 6d. paid up, leaving a liability of a further 2s. 6d. If the shareholders determined to enter into this new arena, it would be for them to consider how many shares they would take in the proposed new company. In his opinion, it was more than possible they were on the eve of a very great sensation in Western Australian mining matters. Most people who knew anything of West Australian business thought that before many months were passed there would be such a revival in West Australian enterprise as would almost, if not quite, equal the early days of South African gold development. The property they were offered had been well reported upon, and they were to pay very little cash for it, so that with the money raised they would be able to work the property itself, and give the shareholders a good run for their money. They were to pay for the property 40,000 fully-paid up shares—equal to £10,000—and the small amount of £1500 in cash. Supposing the whole of the 150,000 shares to be offered to the shareholders were issued, and after payment of the purchase consideration, the capital of the company would not exceed £47,500, which would leave something like £17,250 in cash in the coffers of the company, while they would have a further reserve fund of 110,000 shares for future use, which could not be issued under 5s. each. If they struck a reef—and appearances were in favour of their doing so—those shares would be worth much more than 5s. In conclusion, the Chairman referred to the remarks of Sir William Robinson at a banquet on the previous night, in which he pointed out that the gold mining belt of Western Australia covered an area of 100,000 miles, and spoke in very hopeful terms of the gold production of the colony, which might reasonably be looked for.

The motion was carried, with one dissentient.

The meeting also decided to give Mr. Sellick a fee of 50 guineas for acting as liquidator, and an undertaking was given by the directors that unless half the amount offered to the shareholders were subscribed there should be no allotment.

The CHAIRMAN proposed the second resolution, as follows:—

> That the draft agreement submitted to this meeting, and expressed to be made between this company and its liquidator of the one part, and the Gold Explorers (Limited)—being a new company intended to be registered under such name or under such other title as the Registrar of Joint-Stock Companies may approve, and with a Memorandum and Articles of Association which have been already prepared with the privity and approval of the directors of this company, be and is hereby approved and adopted, and that the said liquidator be and he is hereby authorised and directed to enter into an agreement with such new company, when incorporated, in the terms of the said draft, and to carry the same into effect.

This resolution having been seconded, was passed, as before, with one dissentient.

A vote of thanks to the Chairman terminated the proceedings.

ANGLO-FRENCH EXPLORATION COMPANY.

An excellent record.—Increase in the company's assets.

The fifth ordinary general meeting of the Anglo-French Exploration Company (Limited) was held on Thursday, at the offices of the company, Winchester House, Old Broad-street, Mr. ERNEST MOCATTA presiding.

The SECRETARY (Mr. W. Henderson Clark) read the notice convening the meeting.

The CHAIRMAN, in moving the adoption of the report and accounts, said: I feel that I have to a certain extent to claim your indulgence for the delay that has occurred in laying them before you. We had fully hoped to have our meeting about the end of March, but the rapid extension of our business, and the time that the auditors had necessarily taken in going carefully through our accounts has prevented our being able to do so until now. However, the delay that has occurred has some compensation, inasmuch as it will enable us to give you an even more excellent account of the position and prospects of our undertaking than we should have been able to do had our meeting taken place at an earlier date. It will, I think, be most convenient if I first deal with the figures in the accounts, and call your attention to what I think are the important points in them, and then place before you as clearly as I can the position of your company at the present time. In doing so I shall not fail to remember that one of my duties as Chairman is to take up as little of your time as I conveniently can. Looking first at the balance-sheet, the most important feature on the debtor side is the increase of our authorised capital from £150,300 to £350,300. Of this increase only about £32,000 appears in the balance-sheet as issued to the end of 1894; but you will recollect that of the 200,000 old shares which were created, 100,000 were left at the disposal of the board. Of these shares 50,000 were given on option at a small premium to certain parties who guaranteed the issue of the 100,000 which were offered to the shareholders. At that time our shares were only just becoming known on the market, and we thought it highly desirable that our new issue should be all taken up. As it turns out, the guarantors entered into an excellent business, but I think we have no reason on our side to regret it, as it is the appreciation of our property which has made their transaction a profitable one. Their gain has also been our gain. This accounts for 150,000, and of the remaining 50,000 20,000 were allotted to Mr. Farrar under an arrangement, and 30,000 remained in the hands of the directors to be dealt with as may be thought advisable in the interests of the company. Turning to the creditor side of the balance-sheet, you will see that at the end of 1894 we had about £124,000 invested in securities and about £120,000 in cash, and some trifling items noticed in our report are taken at cost price. In previous accounts presented to you we have been in the habit of taking them at balance of cost price, but we have had to alter our system of book-keeping, as we found that under our old system a good deal of realised profit which should figure in the profit and loss account would have been hidden in the balance-sheet. All realised profits, therefore, had been credited to the profit and loss account, and your directors are anxious that you should know that it is from realised profits only we have considered the dividends can be properly distributed to the shareholders. It is most satisfactory to be able to tell you, as we do in our report, that the estimated value of our assets considerably exceeds what they stand at in our books. That surplus, however, is not profit, but only potential profit, and we consider it as belonging to our capital account until it has actually been realised. In the profit and loss account there is not much for me to call your attention to. You will see that the net profit realised during the year amounts to £42,145. From this is deducted the debit balance brought forward of about £8000, leaving a balance of (say) £34,000. We have paid an interim dividend of 10 per cent., absorbing £15,000, and we now recommend you a dividend of 12½ per cent., payable to the holders of the original issue of £150,000 ordinary share capital, which will leave a small balance to be carried forward to the next account. I think you will agree with me that the working expenses of the company are not excessive. They amount to about £8000 for 1894, after deducting the manager's concessions, which are not properly working expenses. Against this amount we received about £1700 for agency and transfer fees. I think we shall in the future receive considerably more than this, looking to the increase in the number of companies which we have located with us; in fact, I hope and believe that a very considerable part of our working expenses will in future years be defrayed in this manner. I have now done with the dry part of what I have to say, and I will deal for a short time with what will probably interest you more—namely, the present position of our company. We tell you in our report that at the end of the year we estimated the value of our surplus assets to be about £129,000. I now have the pleasure to tell you that, taking those assets at what I should think is to-day a modest value, they exceed our paid-up capital and liabilities by a sum of from £350,000 to £400,000. (Applause.) I want you to understand that the assets I am referring to, and which show this surplus, are those we held at the end of 1894. During the current year we have entered into a great deal of fresh business, which is also likely to show excellent profits, but it would be premature for me to attempt to give you to-day even a rough estimate of the results that we anticipate from them. I think you will find this statement a satisfactory one, and it is still more satisfactory for me to be able to add that all these surplus assets—roughly speaking about £60,000 to £70,000—represent profits actually realised. (Hear, hear.) I should also add that yesterday we received a cable from Mr. Farrar informing us that the Benoni syndicate—in which we have a very large interest—has declared a dividend of £250 a share. The amount of dividend which will thus accrue to the Anglo-French from its holding exceeds £43,000, so we can add this sum to the £60,000 or £70,000 of which I have just spoken. Such, gentlemen, is, roughly speaking, the position of your company up to date, and your directors look forward to the future with great confidence. We have, as you know, in Mr. Farrar a gentleman of exceptional ability to conduct the affairs of the company in South Africa, and he is most ably seconded by the energy and capacity of our managing director in London. We other directors have also now acquired some little experience, and we spare no pains to be of use to the company in every possible way. Our company has an excellent reputation. People are willing to admit us in the business they undertake, and are anxious to participate with us in the business which we initiate. We shall have, without doubt, our good years and our bad years, like other people; but, taking one with another, we feel confident that there is an excellent future, as well as a very satisfactory present, in store for the Anglo-French. (Applause.) Now, you will very naturally wish to hear something respecting the chief undertakings in which our company is interested to-day. Last year we had the advantage of Mr. Farrar's presence at our meeting, and he gave you an account of the more important of our investments, and also his views concerning them, which it is only fair to say have been more than justified by the event. Many of our investments are the same as they were then, but we have naturally added new ones, and I have asked our managing director, Mr. Brailsford, who will second the adoption of the report, to give you some account concerning them. He has been twice in Johannesburg, and knows far more than I can pretend to about mining matters, and is far more competent to speak about them. We venture to think that it is better for us to give you at each meeting some account of our chief interests than to adopt the course of giving you an exact list of our holdings. We have, as you know, only annual meetings, and as during a whole year such investments may be subject to much change, we think that such a list might be rather misleading than otherwise. I now have a word to say about the fresh agreement we have entered into with our excellent manager in South Africa, Mr. Farrar. A thorough understanding was arrived at with that gentleman last autumn, when it was decided, on his strong recommendation, and that of Mr. Brailsford, to increase our capital. It was arranged, then, at our particular instance, that he should take up 20,000 of our new issue, of which he should hold at least three-fourths during the term of his agreement with the company, and it was also arranged that in every way his interests should be thoroughly identified with ours. This agreement gives us every satisfaction, and we believe it will work admirably—in fact, I may say it has worked admirably, both for the interests of this company and those of Mr. Farrar. You will notice, gentlemen, that in our report we use rather emphatic language in respect to our approval of the way in which the secretarial business of this company and its affiliated companies is conducted. (Applause.) It is said that self-praise is no recommendation, but I do not think that in this case the language we employ is at all strong. This and many other of the businesses have increased during the last six or nine months by leaps and bounds, to use the often-quoted expression of Mr. Gladstone. It has been no easy matter to cope with such an increase, and that we have been able to do so has been, in the first instance, due to the untiring energy of our excellent secretary, Mr. Clark. The best thanks of the directors and shareholders are due to him, and also to the rest of our staff. (Applause.) I think I have now exhausted the subjects on which I rose to speak. If I have kept you too long I must beg to apologise, but you will recollect that there were a good many points for me to notice, and also that, like Christmas, our meeting comes but once a year. I now beg formally to move the adoption of the accounts and balance-sheet, and also that a dividend of 12½ per cent. be, and is hereby, declared on the the shares No. 1 to 150,000, which constitute the original ordinary capital of the company.

Mr. STANLEY BRAILSFORD seconded the adoption of the report, and in doing so gave an account of the company's principal assets. Respecting East Rands, he said they had always had a large interest in that property, which every month was proving itself more valuable. Since they met in June last three companies, which might be termed the East Rand's children, had been launched—the New Comet Company, which was floated with all the necessary working capital on January 29; the Angelo Gold Mines (Limited), which was floated at the end of March; Driefontein Consolidated Mines (Limited), had also now been floated, all with the necessary working capital. These companies comprised, with their Deep Levels, about 334 claims of the territory belonging to the East Rand Company. The Comet mill, he believed, would commence crushing in July. Over 100,000 tons of ore had been developed in the property, which was opened to the 4th level, and which gave a fair average of 14 to 15 dwts. milling value. The St. Angelo, according to the latest advices, had about 230 feet developed, giving somewhat extraordinary richness. The Driefontein Consolidated was also developing satisfactorily, and it was belived that the new mill would be working by January next. In all of the subsidiary companies the Anglo-French possessed a large interest. Mr. Farrar, who had spent a great deal of time on the properties since his return, in a letter dated 29th March, said:—"Generally I consider the prospects of the East Rand most promising. In my opinion, every foot of the property will pay to develop, and I think the properties all through will turn out as well as any of the Main reef properties." The new companies referred to covered only 334 claims out of 1171 claims, belonging either to the East Rand Company or subsidiary companies in which the East Rand had an immensely predominating interest. In connection with East Rands, the Anglo-French had a large holding of original H. F. Syndicate shares, which were entitled to 25 per cent. of the surplus profits of the East Rand Proprietary Mines after the shareholders had been paid 100 per cent. in cash or shares. The early history of the New Kleinfontein Gold Mining Company was not an enviable one, but it was reconstructed in November, 1893, and had been carried through in a manner that reflected the highest credit on Mr. Farrar. The Anglo-French Company had had a large interest in it since its reconstruction. Between November and May, 1894, development was proceeded with, and ore was crushed to the end of 1894, leaving a profit of £22,574 for that year. The directors were able to declare a dividend in December last of 12½ per cent., and had since declared another of the same amount. The mill was increased to 65 stamps, by adding 15 new heavy stamps, which were now working, and it had since been decided to increase the mill to 100 stamps, which would be at work, it was hoped, next October. The development was fully 70,000 tons ahead of the mill. The Kleinfontein Company had purchased from the Benoni Syndicate 88 Deep Level claims on the immediate dip of the property. This would give a total in the mine of 3,150,000 tons of ore, and with 100 stamps, a life of about 30 years. (Hear, hear.) This property had struck the Chimes reef in its dip claims. The ore on the strike was exceedingly rich, assaying, they were told, 2 ounces to the ton, with every prospect of its proving payable throughout the property. The strike might be said to double the value of the property. It was like getting two mines instead of one for the additional cost of a Deep Level shaft, which was now being sunk with all possible speed. The Benoni Syndicate's ground was situated in a most valuable portion of the Rand. It consisted of 338 claims. The Anglo-French had a holding of 175 original £100 shares, and, with Mr. George Farrar, had a controlling interest. These shares, he believed, were saleable at about £1000 each, and telegraphic advices had just been received to the effect that £43,000 had been paid to the Anglo-French as a first dividend on that holding. The company also possessed an interest in a property known as Taylor's Block situated to the south of Benoni. The Chimes reef was believed to run through Benoni ground at distances varying from 3 to 800 feet from the southern boundary. This being so, Taylor's Block would form the Deep Levels and give to any properties that might be worked on Benoni the long life that was so desirable in mining ventures. This property had been secured on very reasonable terms, and the company had an eighth interest. This company also possessed substantial interests in the Rhodesia Company, the Balmoral, and the Gardiner Companies, and others. Off the Rand they had confined themselves in the Transvaal to one company only, the Estates Company (South African Republic), Limited), the capital, which was £60,000, of which 50,000 shares had been issued and fully paid, and 10,000 were held in reserve. Of the 50,000 shares issued, the Anglo-French held 17,500. The extent of land held by the company was 250,000 acres on 43 farms, and 22 freehold erven in Pretoria, Potchefstroom, and elsewhere, and the board were assured that the land had been selected with the greatest care. The company's holding had been valued at £12,000, a mere nominal figure for such a large extent of country. About 20 of the farms were in one block, situated on the Springbok Flats in almost immediate proximity to which, he believed, the survey for the new line to the north had been made. The land, they were told, was exceedingly rich, in a healthy district, and capable of producing almost anything. Water was readily met with at 30 and 40 feet. It was within 90 miles of Pretoria, and was likely to become an important centre when the new railway was opened for traffic. The Government survey was now taking place, but the company's titles were perfectly secure on the terms according to Dutch law. It was intended to put this property on the market very shortly at a price which the board believed would be highly satisfactory. This would enable the company to provide a working capital, with which active prospecting work would be immediately commenced. Then the company held a very large interest in the Anglo-French Matabeleland Company (Limited), of which the authorised capital was £60,000, and £39,750 had been issued. The company had £30,000 cash in hand, and its holdings were 235 claims, believed to be gold-bearing, equivalent to 6 miles of reef in the Belingue district, and 33 farms equal to 200,000 acres, or 312 square miles in the districts of Belingue, the Shangani River and North and South Gwelo. It also owned 110 claims on the Panhalanga range, south of what was known as Jeffrey's claims, a half-interest in the Streatham mining property

of 40 claims on the Panhalanga, and 230 square miles granted by the Chartered Company, and located about 40 miles north of Umtali. On 30th May, 1894, Mr. Little, their manager, wrote:—"I have located all the farms;" and about 8th July, he wired to the manager at Johannesburg: "Prospects very bright in our districts;" and on 5th December a cable stated that the reef had been struck at 300 feet 30 inches wide, giving ¾ ounce to the ton—(hear, hear) —and that on other claims the reef had been struck with promising assays 42 inches wide. They had a manager, and a competent mining man on the ground, and all advices were most promising. Respecting the Panhalanga properties, the eminent French engineer, Mr. Durand, who returned about a year ago, wrote:—"Some very heavy bodies of mineralised quartz have been found in the Jeffrey's and Anglo-French tunnels." It was the general opinion that the Panhalanga properties would be probably the first really working in the Chartered Company's territories. Work was being pushed on as fast as practicable, but, of course, machinery would not be put down until it was known that there was a mine. Time was, therefore, required, but it was the intention of the directors to be among the first, if not the first, to run a mine as a going concern on something like a large scale in the Chartered Company's territories It was very gratifying to Mr. Farrar and himself to find that their anticipations as to the utility of further capital had been justified by the course of events. Yesterday he received the following cable from Mr. Farrar;—

> East Rands, Comets, Angelos, Ramsays, the ore bodies opened up by the developments are most satisfactory. Angelos we are now opening up very rich. Kleinfontein development mine equipments, good progress is being made. Chimes reefs in the shaft assay 2 ounces. Benoni Syndicate declared a dividend of £250 per share, amounting to upwards of £43,500 to be placed to credit of Anglo-French. Greater profit is expected from this source. Rand Klipfontein Company, work is being pushed ahead, the explorations promise well; consider property extension of Modderfontein Reef likely to turn out very valuable. Balmoral, Gardner, West Chimes, Investment, they will prove highly remunerative. Further business prospects most encouraging.

The motion for the adoption of the report and accounts was then put and carried unanimously.

The retiring directors, Messrs. E. G. Mocatta and H. Rosenheim, and the auditors, Messrs. Cooper, Brothers, and Co., were reappointed, and the proceedings terminated with a vote of thanks to the Chairman and directors.

GOLDEN FEATHER, LIMITED.

An early commencement of working anticipated.

The first ordinary general (statutory) meeting of the shareholders of the Golden Feather (Limited) was held on Monday, at Winchester House, Old Broad-street, Mr. ALFRED BORWICK presiding.

The SECRETARY (Mr. E. Harvey) read the notice convening the meeting.

The CHAIRMAN, having apologised for the absence, through illness, of the Chairman of the company (Mr. Pechey), said: You have heard the resolution read, and before putting it I will make a few remarks. You are aware that this is the statutory meeting, and, therefore, we have no real business of any sort before us, except to pass this resolution; but as you are here, you may like to hear the position in which we stand at Oroville. We had a telegram a day or two since from Colonel MacLaughlin, which reads as follows:—"Canal, headdam, foot-dam, elevators, pipe-line, ditch in perfect order. If all goes well and weather favourable for operations, I hope to be able to turn the river in June." Last year the river was turned at the end of June, and I should be very glad indeed if the Colonel is able to turn the river again by the same date on this occasion, for the simple reason that last year when it was turned the whole of the difficult work of getting to the bed of the river and getting the machinery fixed into position was still staring us in the face. Such operations must, under the most favourable circumstances, last for four months; and if they are done then, it is fortunate. Last year, as you will recollect, instead of attemping to recover gold, we simply authorised Colonel MacLaughlin to direct all his efforts to make his machinery safe at the bottom of the river. That has been done, and, in addition, preparations were made for clearing the river, so that directly he turned the river in June or July this year, he could begin to sluice in pay gravels. That is a totally different position. We have been saved the four most valuable months of the year, and that may mean a very good story for the shareholders before the end of the season. In the year 1857 the river was just opened for a short time by some energetic Californians, who managed to make a wooden flume, and carry the whole of the water of the river for some six weeks. Those men in that time recovered from a small section of the river, in the most inadequate way, an amount of gold equal to $1,000,000, or £200,000; and we know for certain that £140,000 was declared in dividends to the shareholders. They never again had such a favourable year as to allow them an opportunity to get to the bed of the river, and no further money has been recovered; but as soon as the river is turned this year we expect in a fortnight to be working amongst the rich gravels, and then the Colonel will have at least four months in which to work those gravels which we know to contain the gold. You will thus see what a different position we are in this year to anything that has been our lot before, and I am looking forward myself with the utmost confidence to our all being amply repaid for the trouble, worry, and delay that we have had in the past. I shall be glad to answer any questions that may be put, and now beg to move:—

> That the directors of this company be and they are hereby authorised to purchase and accept the transfer of the title to the property of the Golden Feather Channel (Limited), being that certain mine situated in Butte County, State of California, U.S.A., known as the Morgan and Greek Mines or Claims, and also that mine or mining property known as the Golden Feather Channel (Limited) Mine, with all the rights, benefits, and privileges in any wise appertaining, pertaining, or attached to the same, and also the rights of way for roads and paths and pathways, constructed or to be constructed, for the purposes of ingress and egress to said mines, and also all improvements made in furtherance of the mining enterprise, and also all tools, machinery, and implements of every character belonging to and used upon said mining claim, and used for drying the bed of Feather river within the boundaries thereof, and any and everything belonging to the Golden Feather Channel (Limited), used in connection with and appertaining to said property, together with all tenements, hereditaments, and appurtenances and improvements upon said property, and every part thereof, in accordance with the terms of the agreement thereof, dated the 11th day of January, 1895, from Thomas George Shardlow, liquidator of the Golden Feather Channel (Limited) to the Golden Feather (Limited), and that the secretary of this company be directed to affix the seal thereof to the deed of conveyance of said properties.

Mr. ELLIS seconded the resolution.

The CHAIRMAN said the board had received proxies in favour of the resolution to the number of 168,614, out of total of 190,000—a number far beyond the number required to carry the resolution—so that the matter was in the directors' hands, and the meeting was only asked to approve the resolution as a matter of form.

In answer to Mr. HANCOCK, the CHAIRMAN said the foot-dam was left in such perfect trim last year that it was quite impossible for any water that passed over it in the ordinary course to make the slightest difference to it. The Colonel had stated that the dam would be a monument 100 years hence, because nothing could destroy it. The Chairman added that the board had had one or two enquiries with regard to the funds of the company, and he was glad to say they had ample for all their requirements for the season.

The resolution was then put, and unanimously carried.

The CHAIRMAN next moved:—"That this meeting desires to express its sympathy with Mr. J. T. P. Pechey and his family, on account of his long and serious illness, and its sincere hope that he will soon be restored to his wonted health."

The motion was seconded by Mr. HANCOCK, and carried unanimously.

The CHAIRMAN, in acknowledging a vote of thanks, said he had a firm belief in the Feather river, and his efforts would not cease until he had justified it.

CAPE GOLD EXPORT.—A Reuter's cable, dated Cape Town, May 8, stated that the Union Company's steamer *Norman* took gold for Europe to the value of £161,000.

DOLCOATH.

"Dolcoath, Limited."

A special meeting of adventurers in Dolcoath Mine was held at the Magistrates' Hall, Camborne, on Thursday, Mr. Michael Williams, J.P., C.C., presiding, to receive a report from the committee and deputation as to the further negotiations with the lord on the proposed new lease, and to consider the desirability of reconstructing the company on the limited liability basis.

The CHAIRMAN said that meeting was one of the most important mine meetings which had taken place in Cornwall for many years. They were there to consider getting rid of the old cost-book system of mining, and to turn that into a limited liability company. He was afraid he was one of the old school that would like to see the cost-book system exist; but he was afraid that times had advanced faster than he could have expected or wished, and that to keep pace with the times they must do as others did, and turn everything into a limited liability company. They went to London, and found they could get any amount of money provided they saw their way to turn the thing into a limited liability company. Having seen there would be no difficulty in getting the money, the committee felt that it was of no use thinking of a large scheme with only a thirteen years' lease, and approached the lord with regard to a new lease. He met them very fairly, by saying he would grant a new lease for as long as they liked up to sixty years. But the rock upon which they split was the question of dues. Mr. Bolitho and Mr. Lanyon were appointed by the shareholders to meet the lord's agent, with the committee, and they were of the utmost possible assistance. The lord's agent met them, to a certain extent, though not so far at they wished. They found the terms very hard, and such as they had great hesitation in accepting. But, at the same time, they felt that if they refused them it would be a most serious thing for the district and for the miners generally, and therefore, of the two evils they chose the lesser. They considered half a loaf was better than no bread, and accepted the terms offered. Having got over that difficulty, they took the earliest opportunity of calling the shareholders together. Mr. T. B. Bolitho, M.P., had written from London to him as follows: "Although we are not large shareholders in Dolcoath, I would have made a point of attending the meeting on Thursday if I could have got away, but my engagements this week are numerous, and I cannot get out of them. I hope that the shareholders will, on the whole, feel that your committee has done all that it could in establishing the new rate of dues. The terms, no doubt, are not all that could have been desired, but the interests at stake were too large to permit of further delay. The chief point achieved is, of course, the considerable reduction of dues when the price of tin is at or below £50. I hope that Mr. Basset, his agents, and the adventurers may now all pull together, seeing, as they must do, that their interests are so mixed up. I hope, too, that the scheme of transforming the mine from the cost book into a limited company will meet with a favourable reception. It seems to me it would be futile to expect to obtain the necessary money for the work in any other way, and that a considerable sum of money is requisite there cannot be a doubt. The scheme seems, moreover, to have been well devised and to justify strong support. As far as one can see, too, the property is well worthy of the large experiment, but without this outlay and the adaptation of all manner of modern appliances, your riches will avail nothing. Your experience is far greater than my own, but I think you will agree with me that you have never known a more critical time than that which at present exists in regard to Cornish mines, and it behoves everyone who has an interest in the county to sink differences and jealousies in the struggle which should be made around the Carn Brea Hill to rescue the five or six leading mines yet remaining, either by a fair and judicious system of absorption or amalgamation, and the granting of generous terms with long leases from the mineral owners. Having regard to the past history of the county, and to its present exceedingly unhappy condition, I feel that we should all pledge ourselves to make a supreme effort in the direction I have ventured to advocate." Proxy papers for that meeting had been very fully responded to, and out of 4,700 shares they had had 3,933 proxies, so that those present would see that the committee had very strong support from the shareholders. (Hear, hear.)

Mr. C. V. THOMAS, solicitor to the company, explained the scheme the committee had approved of for raising more capital and turning the concern into a limited liability company, and which, he said, had also the fullest support of the manager. Two points had been before the committee—the diminution of the cost of production to the smallest possible amount, and, secondly, that with their standing charges and increasing standing charges, there must be an increased output if they were to hold their own with the other tin-producing parts of the world. They were assured that when the perpendicular shaft was down the cost of production would be reduced twenty per cent. Consequently, many thousands of tons of low-grade ore, which could not now be profitably worked, would be made valuable. Besides this, the mine would be rendered—as the manager said some time since—practically safe from runs, and the standing charges would be considerably reduced. Those reasons had led the committee—as he believed they would lead everyone else—to see that the sooner some means were found to put the mine in a proper state the better for Dolcoath and the county. As to the raising of the money, it was regarded as hopeless to expect the present shareholders would be in a position to respond to such huge calls as would have to be made under the cost-book system. Driven from their own shareholders, they were compelled to seek some outside. The committee felt that unless the basis of the investing public in mines in Cornwall was very much widened they were within a very few years of the extinction of most of the Cornish mining properties. Limited liability was regarded as the only solution of the difficulty. The committee took care not to get into the hands of any company-mongers or company-wreckers; and had their attention directed to gentlemen whom, he believed, it would be their benefit and pleasure to see in other capacities. It was thought that the committee ought to see their way at once to raising £100,000, and that probably in the near future a larger sum would be required. The nominal capital of the Company had been fixed at £350,000, in 350,000 shares of £1 each. Every share to be of the ordinary class. It was fixed that for every 4,700th share in the present concern forty £1 fully paid-up shares in the new company should be given. In considering that he asked them to remember that that was fixed when the shares were standing at 31¼, and if an announcement had not got out foreshadowing the proposed changes he ventured to say the shares would have been near £21. That would exhaust £188,000 out of the £350,000, and then the question was as to how the £100,000 they wanted in cash could be raised. As the result of negotiations, it was proposed that every holder of a 4,700th share in the present company should have the right to apply for six new shares at par. If that right were exercised, £28,200 of the £100,000 would be found, leaving £71,800 to be taken up. The gentleman he had mentioned had agreed to take £71,800, and also any portion of the £28,200 the present shareholders might not be wise enough to take up, so that they would be guaranteed that in any event £100,000 in cash would be raised. They must recognise in this county, what was recognised everywhere else, that capital must have some consideration. The committee felt no promotion money could be paid for finding the amount, and also that no free shares could be given, and that it would be a pity to bring in preference shares. So the understanding arrived at was that these gentlemen should subscribe for £71,800 shares at par, take any part of the £28,200 the shareholders did not accept, and given the right to take up 50,000 more shares at par, if they felt inclined, within three years. It was proposed that the company should be managed by a board of directors consisting of four of the present committee and three outside gentlemen of undoubted respectability and position. The registered office of the company would be on the mine, as it had been for the last century. The executive would remain on the mine as at present, unless cause was shown for their dismissal. Two conditions were made by the gentlemen who had agreed to find the new capital, one being that their present chairman (Mr. M. Williams) should be chairman of the new company, and the other that the manager (Captain Josiah Thomas) should be manager or managing director as he might think best. It had been made a condition that the new company should take over the mine as a going concern with all its assets and liabilities, so that no call would be necessary to meet any losses the mine had already made or was making. The rates of dues agreed upon with the lord were: When tin was at or below £30, one-fortieth; from £30 to £35, one-thirty-fifth; £35 to £40, one-thirtieth; £40 to £50, one-twenty-fourth; £50 to £55, one-twentieth; £55 to £60, one-eighteenth; £60 and upwards, one-fifteenth. No legal difficulties stood in the way of going from a cost book to a limited liability company, though the procedure was slightly novel. If they passed the suggested resolution it would have the effect of at once making Dolcoath a registered company with unlimited liability, thus getting out of the provisions of the Stannaries Act and becoming subject to the Companies Act. Then they would go into liquidation with a view to reconstruction, and appoint a liquidator authorised to enter into an agreement with someone on behalf of the new company, which would have to be registered formally as Dolcoath Limited.

Mr. J. R. BRANWELL, J.P., thought the shareholders should have time to consider the scheme laid before them, and hoped the Chairman would adjourn the meeting for that perpose. He was not too satisfied with the arrangement they were asked to enter into with gentlemen they did not know, but whom, he would take it from the Chairman, were of the first quality. Whatever was the value of that mine, they were to sacrifice one-fifth, and in certain contingencies one-third. They had been told Dolcoath was the richest tin mine in the world, and they had bought their shares believing that was so. But they were now called upon to sacrifice one-fifth or one-third of the property by the watering of the shares for the benefit of the gentlemen joining. He should like to have the compliment paid him of being asked to see whether he could not come down with the amount required. He did not think Cornwall was so poor as had been stated. There was still a little corn in Egypt. He moved that the meeting be adjourned for a fortnight, to give shareholders an opportunity of considering the details of the scheme.

Mr. BAIN asked whether a confirmatory meeting was not necessary.

Mr. BRANWELL said that when the thing was once passed it was confirmed at the confirmatory meeting as a matter of course.

Mr. BAIN replied that if it was passed at the confirmatory meeting it showed that the shareholders were fully satisfied.

Mr. H. ROGERS: If they supposed they would by and by get £3 for each £1 share they had, then £142,000 would be obtained by the outside capitalists for coming in and taking up £71,800 shares, which they well knew would go at a premium in the following week. Then they would have the option of taking 50,000 shares, which would put another £100,000 into their pockets—(laughter)—by identifying themselves with a property which had been recognised as the finest in the world so far as tin mining was concerned. He supported Mr. Branwell.

Mr. G. WILLIAMS (Teignmouth) said it seemed hard lines, seeing what some of them paid for their shares, that they were only to get £40 each for them. Very few of the shares held in that room, except those bought during the depression, cost less than £100 each. The twenty-three he owned cost him £113 18s. 6d. each.

The CHAIRMAN said that when the committee were negotiating with the capitalists shares were only at £32, and the London gentlemen might have protested agasnst giving any more than that. Had the committee not taken the steps they did, shareholders would have had to put their hands in their pockets and paid, perhaps, a £10 call.

Mr. D. W. BAIN, J.P., believed the enhanced price of Dolcoath shares was mainly attributable to the action taken by the committee. He moved that it was desirable to reconstruct the Company under the Companies Act.

Mr. A. LANYON, J.P., seconded.

The motion was carried unanimously.

Mr. FRANK HARVEY, J.P., moved, and Captain RABLING, J.P., seconded, that the meeting, having heard the terms offered by the lord for the new lease, instructs the committee to take steps to obtain a new lease to the proposed limited liability company, and to surrender the present lease to the lord.

The motion was passed.

Votes of thanks were accorded Mr. T. B. Bolitho, M.P., and Mr. A. Lanyon, J.P., for their assistance to the committee.

WHEAL AGAR.

The Pumping Question.

A special general meeting of the shareholders in Wheal Agar was held yesterday at the officers, 2, Drapers' Gardens, for the purpose of confirming, or otherwise, resolutions passed at a previous meeting ordering that pumping operations should be suspended and empowering the committee to get information as to the advisability of forming the mine into a limited liability company.

Mr. R. L. HATTERSLEY, who was voted to the Chair, moved the confirmation of the resolutions, which was seconded by Mr. Hamilton, and carried unanimously.

The CHAIRMAN said that the agent of Lord Robartes was present, and there was every reason to believe that no obstacle would be put into the way of the Company obtaining a new lease on liberal terms, either to work as a cost book mine, or as a limited company. Then, however, the East Pool question came in. At present the Company were drawing East Pool water, who had offered to pay £170 a month if Wheal Agar would continue pumping. Roughly, however, the cost to the Company would be £500 a month, including interest on the capital sunk in the pumping engine, shalf, and plant.

Mr. HAMILTON said the committee thought it would be better to allow East Pool the use of the engines in order that they might carry on the pumping, under the supervision of the Wheal Agar Agents, in order that the plant might be subjected to no unfair usage.

Mr YOUNG strongly deprecated any arrangement with East Pool, by which the latter did not pay all the expenses of the pumping.

The CHAIRMAN said that matters had certainly got into a very difficult position; but he thought a solution might be found. Lord Robartes had the reputation of being a very liberal landlord. He (the speaker) owned about the sixth of the mine, himself, and for some time past his interest had cost him about £1,000 a year—money which he was not at all anxious to lose.

Mr. YOUNG thought it would be wise not to accept the offer of East Pool, but that the matter should be left to the decision of representatives of both mines.

Mr. JENKINS said he should be very sorry to see the temporary arrangement with East Pool knocked on the head, more especially having regard to the number of employés in the district who would be thrown out of work. He believed that the arrestment of pumping on the part of Wheal Agar had been a legitimate action; but an idea had got abroad that pumping had simply been stopped in order to force East Pool to come to some arrangement as to the water charges.

Mr. HAMILTON said there was no doubt that if East Pool would work with Wheal Agar there would be absolutely no difficulty about working the two setts.

After some further discussion in a conversational style, the proceedings terminated with a vote of thanks to the chairman.

CASTLE MAIL PACKETS COMPANY (LIMITED).—The annual general meeting of this company was held on Thursday, at the Cannon-street Hotel.—Mr. J. G. Bolton, who presided, stated that the profit of the company, after paying all expenses for 1894 was £27,571, as compared with £27,300 for 1893, and they proposed to pay a dividend of 14s. per share, being the same as for 1893, and to carry forward £2371, against £2009 brought into the accounts. The total receipts of the company, after deducting all expenses paid out—of course, not including depreciation—amounted last year to £114,471, compared with £116,758 in 1893. They set aside for depreciation last year £92,500, and this year they proposed to set aside £89,000. The book value of the ships, after adding to it the whole cost of the *Arundel Castle* and the entire cost of the alterations to the *Roslin Castle* would stand at £17 19s. 4d. per ton. Considering the class of the ships, and particularly their age—three of them, aggregating 13,488 tons, had only been a few months on the water—he regarded the book value of their fleet as moderate and, indeed, safe. At the same time, had the profit been larger, he would have been in favour rather of adding a portion

of it to increase the depreciation than of disposing of the whole of it in an increase of dividend, for they all felt very strongly that it was a safe and sound policy to have book value of their ships at such a price as in any conceivable circumstances they would be certain to realise. Unfortunately, their ships had not been entirely free from accident, but none of the accidents had been serious, and the insurance fund had been increased to £211,641. Last year they had to lament and to provide for the loss of a fine ship, and this cost the company about £35,000, and reduced the amount at the credit of the insurance fund from £220,000 to a little over £200,000. The vessels which were under construction last year now formed part of the company's fleet, and at the present moment they had no ship under construction. Although they could hardly expect that the proposed dividend, which was only 8½ per cent. on the amount paid up, would be considered by many of them as completely satisfactory, yet he felt it was a subject of congratulation to see that they were better off this year than most steamship companies, and a great deal better off than some of them. As to the future, he did not wish to prophesy, but trade in South Africa had been well maintained, and the results so far this year were quite equal to those in the corresponding period of last year. He concluded by moving the adoption of the report and the payment of the dividend mentioned.—Mr. John Napier seconded the motion.—The Chairman, in answer to a shareholder, said he had specially avoided any reference to the so-called agreement which had been entered into between the various shipping companies running to the Cape, as he thought that by doing so he might give the matter more importance than it really deserved. Shipping companies were constantly making agreements of this sort with the view of preventing illegitimate competition.—Sir Donald Currie, M.P., in reply to Mr. Jacobs, said that there had been no war of rates that he was aware of between the Castle Company and the Union Company; and the arrangement made might possibly prevent such a contest. He had always held that excessive competition in speed was dangerous and ruinous to a company; and a good many companies he knew of had found that to be the case. The motion was then unanimously adopted, and the election of Admiral Sir Anthony H. Hoskins as a member of the council was afterwards confirmed.

DAY DAWN P.C. GOLD MINING COMPANY (LIMITED).—The ordinary general meeting of the shareholders in the Day Dawn P.C. Gold Mining Company (Limited) was held yesterday at Winchester House.—Mr. Sinclair Macleay, who presided, in moving the adoption of the report and accounts, referred to the considerable additions which had recently been made to the company's property, increasing it in extent from about 20 acres to over 70 acres, the importance of which would be recognised when it was known that the new reef recently discovered by the Mill's Day Dawn United Company on the footwall of their reef probably ran below the whole breadth of their own property. With this in view, and in the light of recent developments, there seemed every ground for hoping that the company was on the eve of a new era of prosperity. The reason that no dividend was proposed on that occasion was the necessity of having sufficient money at the bank to prosecute the works necessary to open up the property. There would be little advantage in the distribution of a 6d. dividend until it was known that dividends could be continued.—Mr. Thomas Buckland seconded the motion, describing in a few words the result of his visit to the mine in February last, the main result of which was to remove all doubt that the payment of good dividends to the shareholders would not be delayed very much longer.—The motion having, after a brief discussion, been passed, the retiring directors and auditors were re-elected, and the proceedings terminated with a vote of thanks to the Chairman.

COMPANY FINANCE.

Reports, Balance Sheets, Dividends, &c., of Mining and other Companies.

The Exploration Company.

A circular issued to the shareholders of the Exploration Company (Limited) states:—"The company has now been in existence about 5½ years, and during that period has carried on its present business with only the small paid-up capital of £30,000. Owing to the limited amount of money thus in the hands of the directors, it has not been practicable to make large profits by direct investments, but by offering opportunities to its shareholders of subscribing for shares in other companies that have been brought into existence under the auspices of the Exploration Company, many of such shareholders have been able to participate in very profitable new business. Thus, while the dividends paid by the Exploration Company to date amount to £71,433 6s. 8d., the indirect advantages obtained by the shareholders have been far greater Although this policy has answered very well in the past, your directors are now of opinion that it will not continue to do so in the future. The fact is that the children are growing stronger than the parent, and some of our affiliated companies now command such large resources that the Exploration Company, with its present small paid-up capital, can only expect to obtain a proportionately small participation in business which may be offered in the future. Two valuable options have been secured for the company; but, in order to realise them to the best advantage, a very considerable amount of money will be needed during this year. A large increase, therefore, in the paid-up capital of the company has become essential. At present, although the nominal capital of the company is £300,000 in shares of £1 each, the issued capital is only £150,000, upon which 4s. per share has been paid-up, divided as follows:—148,000 ordinary shares, with £29,600 paid-up, and liability for £118,400; 2000 founders' shares, with £400 paid-up, and liability for £1600—total, 150,000 shares, with £30,000 paid-up, and liability for £120,000. Under the Memorandum of Association of the company the amount paid-up on the ordinary shares (now £29,600) receives in any year—when the profits are sufficient—10 per cent. preferential dividend, any further amount distributable being divisible equally between the ordinary and founders' shares, but the 10 per cent. is not cumulative. The holders of the founders' shares are also entitled between them to as many votes as the holders of all the other shares in the company for the time being, with the result that, as the capital at present stands, each founder's share counts at a meeting as equal in voting power to 74 ordinary shares. This division of capital—with the special rights thus attaching to each of the two classes of shares—creates difficulties, and it has long been felt by your directors that it would be desirable in the interest of the company to frame some equitable arrangement between both classes of shares, by which the whole capital could be put on an equal footing. To carry out any such arrangement it is essential that the scheme should have the support of both classes, as with the voting power balanced as it is nothing can otherwise be done. After a full consideration of the whole matter, and after ascertaining the views of most of the large holders of each class of shares, your directors are of opinion that the fairest arrangement would be to allow the holders of the founders' shares to subscribe at par for the present unissued capital of £150,000, they then foregoing all their special rights in respect of the 2000 shares at present held, the ordinary shareholders, on the other hand, foregoing their preferential dividend of 10 per cent., thereby putting the entire capital of £300,000 on the same footing. As things at present stand, if the remaining £150,000 of capital was issued, the moneys paid up thereon would be entitled equally with the other ordinary shares to participate in the 10 per cent. preferential dividend, while the founders under the existing Articles of Association would, to the extent to which such shares were offered for subscription to the existing shareholders, have a right to subscribe for one-half of them. The directors would have been glad if this arrangement could have been carried out without the formation of any new company, but it has been found that when the company was formed the rights of both classes of shareholders were so carefully guarded in the Memorandum and Articles of Association as to be unalterable. What is desired, therefore, can only be accomplished by a reconstruction, and the formation of a new company. In form this necessitates special resolutions being passed for the voluntary winding-up of the present company, but not any liquidation of, or interference with, the business, as under the resolutions to be passed a new company with the same name will be immediately formed, to which the business and all the property and assets will at once be transferred, the directors acting as liquidators of the old company, being, at the same time, directors of the new company. The capital then of the new company will be £300,000, divided into 300,000 shares of £1 each. The holders of the present 148,000 ordinary shares will have the right to subscribe at par for one-half of the capital in the new company—that is, 150,000 shares—and the holders of the founders' shares will have the right to subscribe at par for the remaining 150,000 shares. The amount at present paid-up on each class of shares—that is, £25,600 on the old ordinary shares and £400 on the founders' shares—will be available as payments up to that extent in respect of the new shares. The 2000 shares which the ordinary shareholders thus have the right to subscribe for in excess of their present holding of 148,000 will, so far as a *pro rata* division is impossible, be sold for their benefit, and the cash proceeds distributed. With a capital of £300,000 thus provided it is proposed to call up the amount as follows:—

On application, 4s. per share	£60,000
On allotment, 4s. per share	60,000
One month after allotment, 6s. per share ..	90,000
Two months after allotment, 6s. per share ..	90,000
	£300,000

Pestarena United Gold Mining Company.

The following circular has been issued to the shareholders:—"The undersigned, being respectively holders of 12½ per cent. first preference shares, new 10 per cent. preference shares, and ordinary shares of the above company, beg leave to make you the following statement, and to ask your co-operation in carrying out a course, having for its objects the re-arrangement and adjustment of the capital account, and the placing of the affairs of the company upon a sound and satisfactory basis. You will doubtless recollect that at several annual meetings of the company the desirability of such a proceeding has been pointed out by some of the shareholders present, but that it was considered that, so long as the debt to the Bank of Alessandria, repayable by instalments as funds would allow, remained undischarged, and so long as the interest on the debenture debt remained in arrear, any such proceeding was impracticable. You will also recollect that at the last meeting of the company, held on the 17th December, 1894, it was announced that the balance of debt to the Bank of Alessandria had been discharged, and that all arrears of interest on the debenture debt had been paid, and that accordingly the directors had secured the services of a gentlemen of experience and repute to consider the claims and interests of all classes of shareholders. This gentleman is Mr. Alexander Young, the well-known chartered accountant, a member of the firm of Turquand, Youngs, and Co., and he has thoroughly investigated the position of the company, and the rights of all parties connected with it, and has lately intimated his willingness to act as arbitrator between the parties in the event of the shareholders being desirous that he should act in that capacity. Mr. Alexander Young having already acted in that manner in cases involving conflicting interests much more complicated and of much larger amount than those appertaining to the company, it is considered that no better course could be adopted than that proposed. The existing arrangements of the share capital of the company, under which there is a large arrear outstanding of a cumulative preference dividend at the rate of 12½ per cent. on the first preference shares, and of a cumulative dividend at the rate of 10 per cent. on the new preference shares, are wholly unsuited to the position and prospects of the company (improved though the latter may be), and render the issue of any further capital which may be required for the development of the company's business practically impossible. Under these circumstances it is apparent that some scheme should be devised for the re-adjustment of the rights of the various classes of shareholders *inter se*, and we are confident that there is no one better able to frame such a scheme than Mr. Alexander Young. We may add that the largest holder of all classes of shares, and several members of his family, some of whom are holders of 12½ per cent. preference shares only, having had the suggestion put before them, at once acquiesced in the proposed plan of operation, and the undersigned Frederic William Coles acts on their behalf, and, and their holdings of the first preference shares amount to 1757 of such shares. The board of directors of the Pestarena Company are unanimously of opinion that the plan is one calculated to achieve the objects in view in a satisfactory and expeditious manner. With a view, therefore, to the settlement of such a scheme, an agreement has been entered into between the undersigned Frederic William Coles, representing the 12½ per cent. first preference shares, of the first part; the undersigned Richard Garland, the secretary of the company, representing the ten per cent. new preference shares, of the second part; the undersigned Richard Donagan, a director of the company, representing the Ordinary shares, of the third part; the Pestarena United Gold Mining Company (Limited), of the fourth part; and the said Alexander Young, of the fifth part, whereby it is agreed that the matter shall be referred to the arbitration of Mr. Young, and that the scheme to be settled by him shall be binding on all shareholders who adopt or ratify the agreement, provided such reference to arbitration is adopted by resolution of meetings of each class of shareholders, and ratified in writing by the holders of three-fourths in value of the shares of each class."

— The BALAGHAT MYSORE MINES (LIMITED) has sold the gold obtained during the month of March, which realised £458 8s.

— The CHAMPION REEF GOLD MINING COMPANY OF INDIA (LIMITED) has sold the gold produced in March for £21,567 13s. 9d.

— The OORGUM GOLD MINING COMPANY OF INDIA (LIMITED) has sold the gold obtained in March for £20,677 0s. 2d.

Frontino and Bolivia (South American) Gold Mining Company.

The following is the report of the directors:—Since the issue of the last circular the missing letters of January 23 and February 7 have arrived. The latter comprised Mr. Eustice's half-yearly report to December 31, 1894. The letters of March 7 from the mines and those of Messrs. Restrepo of March 13 did not arrive till May 9, owing no doubt to the disturbed state of the country at that time. For the same reason no gold has yet been remitted. On April 30 the directors received a cablegram from Messrs. Restrepo as follows:—"The war is virtually ended. On the 11th May next we send remittance of £25,000, all or part." This remittance is probably the bar gold for the four months, January to April inclusive. Messrs. Restrepo have drawn for £8000 in respect of the costs for two months, and no doubt the gold, when it reaches this country, will be drawn against for the cost of the other two months. The statement for the month of February is as follows:—2644 tons produced—Bar gold, 3210 ounces; tributers' gold produced, bar gold, 181 ounces; total, 3391 ounces; also 44,069 lbs. of sulphurets valued at £515 15s. 9d. Estimated value of the gold and sulphurets, £7810 12s. 9d.; cost at the mines, Medellin, and in London, £5632 16s. 5d.; estimated excess of returns, £2177 16s. 4d.

Crown Reef Gold Mining Company.

The following is from the directors' report for March: Profit from 120 stamp mill and cyanide works, £8313 3s. 2d.; profit from accumulated tailings and slimes, £564 1s. 5d.; total profit for month, £8877 4s. 7d.—Capital expenditure. To mine development £1208 0s. 1d., to machinery and plant £7, total £1215 0s. 1d. The tonnage of ore exposed amounts to 25,098 tons. An accident occurred to the mill-engine on the morning of 27th March, which caused the stoppage of the mill until the evening of 1st April, thus reducing the milling time of the month by about five days. During the stoppage work in the mine was carried on with only a slight reduction in operations, in order that the underground native labour should not be disorganised, and, in consequence, a considerable quantity of ore has accumulated in the mine, which has increased the mining expenses for the past month to an abnormal figure. The heavy repairs to the mill engine have also increased the milling costs. A dividend (No. 14) of 25 per cent. has been declared by the board for the half-year ending 31st March, 1895, being at the rate of 50 per cent per annum. The transfer books will be closed from the 24th to the 30th instant inclusive. The dividend will be payable from the office on the 3rd June, 1895, to shareholders registered in the company's books on the 24th instant.

Poorman Gold Mines.

A circular to the shareholders states:—"The reconstruction of the Poorman Consolidated Mines (Limited) has been successfully accomplished, the entire issue of 852,150 shares having now been taken up by a body of about 1000 shareholders. The mines have been transferred to this company, the titles being now registered in the company's name. After concluding negotiations in New York, Mr. Albert Grothe, the company's superintending manager, proceeded to Silver City and installed Mr. Robert Hay Anderson, a well-known Scotch mining engineer, who has already worked under Mr. Grothe for some time in Mexico and Idaho, as the local manager to reside on the property. Mr. Grothe and Mr. Anderson have since then spent nearly three weeks in further examining and surveying the property and in making plans for future operations, with the result that Mr. Grothe telegraphed on April 29 as follows:—'Confirm former reports. In my opinion the mine will develop into a fine property. The mill will be ready to start about the middle of September. Sending report by to-day's mail.' As soon as the report is received its contents will be communicated to the shareholders. In accordance with the expressed wish of shareholders, the offices have been removed from No. 5, Copthall-buildings. The company's registered address is now 20, Great Winchester-street, E.C.

The Murchison Gold Fields.

The following is an extract from a circular which has just been issued by the directors of the Murchison Gold Fields (Limited):—"Your directors have much pleasure in giving you a brief account of the work accomplished since the company was formed. Immediately after allotment your resident agent in Western Australia, Mr. S. Mitchell (who is the Government Inspector of Mineral Lands), proceeded to the Murchison Gold Fields to examine some mines on which we held options, to inspect the field generally, and also to obtain for us, if possible, some really good properties. We have now several properties in view, and we have selected one that was particularly recommended by Mr. Mitchell. This is the Bonnie Dundee, the name of which, in order to prevent confusion with its namesake at Charters Towers, we propose to change to the Dundee Gold Mine."

West Australian Gold Concessions.

The directors have declared a third quarterly interim dividend at the rate of 20 per cent. per annum, free of income tax, for the three months ended April 30. Dividend warrants will be posted on May 15. Coupon No. 3, attached to share warrants to bearer, which will be payable on and after that date, must be left two clear days for examination. The transfer books of the company will close from May 11 to May 18, both days inclusive.

THE IRON AND STEEL INSTITUTE.—The annual spring meeting of the Iron and Steel Institute, was opened at the Society of Arts, Adelphi, under the presidency of Mr. Windsor Richards, of Low Moor, the retiring President. The annual report, submitted by Mr. Bennett H. Brough, the secretary, stated that during the year the work of the Institute had been carried on with the most encouraging results. Several members were felicitated on the distinctions conferred on them, Sir Wm. H. White having been made a K.C.B., and knighthoods having been conferred on Sir Wm. H. Bailey, Sir Joseph Leigh, and Sir E. Leader Williams. The Japanese order of the Rising Sun has been conferred upon Captain W. H. Jacques, of New York; the freedom of the town of Middlesborough has been conferred on Sir Isaac Lowthian Bell and Mr. Hugh Bell; and the French Société d'Encourgement pour l'Industrie Nationale has awarded the prize of 2000 francs to Professor W. C. Roberts-Austen, C.B. in recognition of his researches relating to the physical properties of iron and steel. Mr. David Dale the new president, having been inducted into the chair, the Bessemer Gold Medal for 1895, which had been awarded to Mr. Marion Howe, of Boston, Mass., in recognition of his valuable contributions to metallurgical literature, was, in his unavoidable absence, presented on his behalf, and at his request, to Professor Roberts-Austen. Mr. Howe wrote expressing his acknowledgments at receiving the highest honour to which a metallurgist might aspire. Mr. Howe is M.A. of Harvard University, Lecturer on metallurgy at Massachusetts Institute of Technology, and in 1894 he was President of the American Institue of Mining Engineers. He has published numerous memoirs on metallurgical subjects, and in 1890 published his great work on the metallurgy of steel, for which he was awarded a prize of 2,500 francs by the French Société d'Encouragement pour l'Industrie Nationale. We hope to publish extracts from the papers next week.

VICTORIAN GOLD MINING.

By THOMAS CORNISH, M.A.I.M.E., Author of "Our Gold Supply." &c.

NOW that the desire for gold mining investments has taken a hold upon the public mind to a greater extent than it has done before for some years, it may be as well to recall to mind some reminiscences of the history of the rise and fall of many of the Victorian gold fields.

For many years past I have persistently advocated the importance of gold mining in connection with other industries to maintain the prosperity the colony arrived at through the development of its gold fields. It is almost incredible that so much utter apathy and absolute indifference could ever have arisen or been engendered in a community as has been the case in reference to the staple industry of the colony. Gold mining has been handicapped from the outset in every possible way—first by the Governments of the day and the ruling powers, and afterwards by a prevalent idea amongst most people that gold mining would not last long, and that it was an industry to be ignored instead of one to be encouraged.

The immense influx of an enterprising population soon spread themselves into various parts of the colony, opening up gold fields in every direction, some of which have been worked with marked success for the past 40 years without much sign of giving out, whilst others have had a brief and merry existence, and become abandoned for want of energy and properly-directed capital and labour for development. The enormous riches of Ballarat, Bendigo, Forest Creek, Tarrengower, Daylesford, Creswick, Clunes, Avoca, McIvor, Ararat, Dunolly, Maryborough, the Ovens in Beechworth, Gippsland, and other gold fields attracted the greatest number of miners. The rich alluvials were the first to be worked, and after the surface areas and comparatively shallow deposits had been exhausted by manual labour, attention was given to deep alluvial mining and quartz reefing by the aid of machinery. The co-operative labour of small parties of miners gradually gave way to joint-stock companies and wages men, when the gambling and speculative element pervaded the industry, as it does now, and will continue to do so.

Many of those who had done a little mining drifted off into other occupations, became settlers on the land, or dwellers in Melbourne, while numbers of experienced miners migrated to other colonies to develop new gold fields.

There are many who have at all times endeavoured to discourage gold mining, and have, in a measure, succeeded in their efforts; but the business has been too profitable and attractive generally to be easily given up.

The colonists have lately passed through a financial crisis and severe depression brought about by neglecting the gold mining industry, and giving too much attention to land booming in and around Melbourne, the consequence being that an undue proportion of the working population has been drawn to Melbourne and suburbs. What to do? To live on each other. This process could not last long, and the Government has been compelled to take steps to deport the working men, for whom no work could be found in Melbourne, back into the country to settle on small homesteads or to go prospecting on the long-neglected gold fields, where there is room for absorbing and putting into profitable employment all the willing workmen who are able to do mining. It is to gold mining that the colony must mainly look for the profitable employment of a large section of its male population. The prosperity of the colony materially depends on the output of gold, and for that reason it is essential that every effort should be made to develop the neglected gold fields in all parts of the colony.

To effect this purpose in a practical way there must be a combination of capital to supply machinery and appliances for mining and milling of the ores on a more extensive scale, and for the treatment of tailings and the extraction of gold by the most approved appliances. Numerous opportunities offer on nearly every gold field for turning to profitable account mines that have been partially prospected and abandoned for the want of timely help to procure machinery to work the mines effectually. In many instances the prospects have been splendid, while in most they have been highly encouraging.

Had capitalists and investors given their attention to the legitimate development of gold mining machinery on an extensive basis to the various gold fields now languishing for the want of capital and enterprise, instead of devoting so much to land booming and buildings in and around Melbourne that are not wanted, and encouraged the young men to go in for gold mining instead of wasting their time in cities where there was no chance of profitable employment, it would have been better for the colony and themselves. A series of monetary institutions were started by amateur financiers to borrow money in England to lend out on weak securities, the values of which were kept bolstered-up by lending to each other on over-valued land and buildings, but no attention was given to increasing the supply of gold by aiding the industry as should have been done.

As I said when in Melbourne last year, had a tithe of the money that has been absolutely wasted in building up useless barrack-like buildings, and so-called improvements, been devoted to practical work and machinery in prospecting and opening up mines that have been allowed to be idle for years, the output of gold might have been, and could be, largely increased, and profitable employment afforded to many thousands of extra miners.

The rude awakening that Victoria has had during the last few years through neglecting her gold mining industry, and indulging in so much reckless expenditure of capital in unproductive works, will probably cause more attention to be devoted to developing her long-neglected gold fields, some particulars of which I will give in future issues of the Journal.

THE APRIL OUTPUT OF THE INDIAN MINES.

DURING last month the output of the producing mines in Mysore, India, was 20,399 ounces, showing an *increase* of 142 ounces as compared with the preceding month, and an *increase* of 4848 ounces as compared with the corresponding month of 1894. The production since the beginning of 1891 has been as follows:—

	1891. Ozs.	1892. Ozs.	1893. Ozs.	1894. Ozs.	1895. Ozs.
January ...	10,186	11,674	16,844	17,026	19,672
February...	10,121	11,780	16,656	15,803	19,358
March	10,117	11,579	17,463	16,080	20,257
April	9,392	11,813	18,287	15,551	20,399
May	10,509	12,488	17,922	16,543	—
June	10,746	11,847	16,879	15,459	—
July	11,097	13,277	16,676	18,271	—
August.....	11,222	14,854	16,692	19,073	—
September	11,396	15,529	17,060	18,911	—
October ...	12,095	15,922	17,440	19,119	—
November	11,667	15,942	17,557	18,825	—
December	11,589	16,435	17,659	19,068	—
Total ...	130,137	163,140	207,135	209.729	79,686

The outputs of the individual mines for the past six months have been:—

	Nov. Ozs.	Dec. Ozs.	Jan. Ozs.	Feb. Ozs.	Mar. Ozs.	Apr. Ozs
Ooregum	5,319	5,325	5,361	5,382	5,533...	5 608
Mysore	4,622	4,889	5,191	4,953	5,435...	5.478
Champion Reef	5,605	5,618	5,635	5,636	5.610...	5.645
Nundydroog ...	3,101	3,106	3,143	3,058	3,163...	3,160
Coromandel ...	—	—	—	217*	—	*
Nine Reefs ...	—	—	147	146...	200...	220
Balaghat	125	115	95	81...	130...	*
Mysore Reefs	53	51	68	90*	—	128
Mysore W. & Wynaad ...	—	—	—	—	156...	160
Yerrakonda ...	—	—	32	52*	—	*

* Not yet received.

RAND OUTPUT FOR APRIL.

TELEGRAPHIC advices received from Johannesburg state that the gold crushings on the Witwatersrandt fields for the month of April were 186,323 ounces. This is the largest monthly output yet recorded, and surpasses the previous record by 1400 ounces. The following table, taken from the circular issued by the Mining Department of the South African Trust and Finance Company (Limited), gives the crushings to date:—

	1890	1891	1892	1893	1894	1895
	Ozs. dwt.	Ozs. dwt.	Ozs. dwt.	Ozs. dwt.	Ozs. dwt.	Ozs. dwt
January ..	35,036 15	52,205 15	84,560 8	103,374 0	149,814 0	177,453
February ..	35,887 5	50,079 2	86,649 8	93,252 0	151,870 0	169,295
March	37,780 2	52,949 1	93,244 11	110,474 0	165,372 0	184,915
April	38,698 19	55,871 18	95,562 6	122,053 0	168,745 0	186,323
May	38,836 5½	54,673 1	99,426 6	116,911 0	169,773 0	—
June.....	37,149 10	56,868 1	103,252 3	122,907 0	168,162 0	—
July	39,456 14	54,924 10	110,279 1	126,169 0	167,953 0	—
August ..	42,863 11	59,070 4	107,322 3	136 039 0	174,977 0	—
September	45,485 19	65,601 5½	107,851 13	129,585 0	176,707 0	—
October ..	45,248 17	72,793 8	111,167 8	133,599 0	173,378 0	—
November	46,782 18	73,393 15	105,794 15	138,640 0	75.369 0	—
December	50,352 15	80,312 11	170,748 17	146,357 0	182,101 0	—
	494,817 0½	729,237 2½	1,120,863 1	1,478,473 0	2,025224 0	

THE OUTPUT OF THE AUSTRALASIAN MINES.

Gold.

	Nov. ozs.	Dec. ozs.	Jan. ozs.	Feb. ozs.	Mar. ozs.	April. ozs.
Aladdin	1,200	1,500	1,800	2,100	2,400	1,768
Amana	...	—	—	—	—	48
Baker's Creek	1,430	1,553	660	1,415	1,993	1,235
Bayley's Reward ...	2,800	2,300	1,545	772	917	665
Bonnie Dundee.....	—	—	27	131	—	—
Brilliant.....	4,126	2,667	2,284	3,609	2,074	2,280
Brilliant Block	2,041	2,064	1,619	1,848	2,215	2,370
Brilliant St. George	2,963	940	—	—	2,174	2,905
Consolidated Gold Mines of W.A. ...	—	—	—	—	77	—
Consolidated Murch	—	—	—	—	440	—
Craven's Caledonia	—	—	—	560	—	—
Cumberland	—	—	—	487	325	600
Day Dawn B and W	133	482	643	691	1,291	1,240
Day Dawn P.C. ...	1,062	576	527	541	459	437
Emerald	—	—	142	—	—	433
Great Boulder	—	—	—	—	—	331
Lake View.....	—	—	763	447	1,341	593
Mills Day Dawn ...	5,059	4,528	4,641	3,376	598	2,476
Mosman	200	409	—	540	627	627
Mount Morgan	9,008	9,269	9,709	8,198	—	—
New Queen	535	964	660	1,075	1,015	975
Star of the East ...	—	—	250	304	—	425
Victoria Association	729	1,019	689	776	1,604	1,479
Victory	610	345	238	134	169	116
Waihi	£8,860	£12,390	£11,400	£7,600	£7,300	£ 7,500
Wentworth.....	2,205	4,230	3,120	6,300	16,315	16,945

THE OUTPUT OF THE SOUTH AFRICAN MINES.

THE following are the April returns, so far received, from the South African mines, and the results for the previous five months:—

	Nov. Ozs.	Dec. Ozs.	Jan. Ozs.	Feb. Ozs.	Mar. Ozs.	Apr. Ozs.
Afrikander.....	602	600	621	450	—	—
Aurora	295	—	351	—	—	—
Barrett	581	606	*	445	519	423
Birthday.....	329	587	*	—	—	—
Block B	3,393	3,456	3,150	3,082	3,223	—
Buffelsdoorn	5,350	5,174	4,800	5002	4,554*d*	—
Champ d'Or	4,041	3,943	4,214	4,350	—	—
Champ d'Or Deep.....	1,201	1,415	1,523	1,621	—	—
Champ d'Or (French)...	—	—	4 250	4,350	4,200	3,800
City and Suburban	10,262	10,484	10,219	9,084	11,124	8,648
Crown Reef	10,853	10,443	10,260	10,015	9,946	10,186
Darban-Roodepoort ...	4,792	4,948	5 346	5,090	5,517	5,830
Eastleigh	1,963	1 936	2.088	2.184	—	—
Ferreira	7,088	7 299	6,230	6,264	5,955	5,765
Forbes Reef	233	159	116	68	—	—
Geldenhuis Estate	6.532	6.433	5,966	*a*	4,777*e*	—
Geldenhuis Main Reef...	1,670	1,718	1,812	1,888	2,007	1,988
George and May	439	274	191	—	731	—
George Goch	2,310	3,053	3,510	3,252	3,306	—
Ginsberg.....	493	618	960	1,002	940	887
Glencairn	5.057	4,584	4.222	4,743	5,096	—
G. F. of Mashona'and ...	—	—	288	216	309	230*g*
Graskop	—	48	51	—	—	—
Henry Nourse	2 421	2,535	2,258	2,292	2,217	2,170
Johannesburg Pioneer ...	895	958	1,006	—	1,058	—
Jubilee	2,261	2,079	2.095	2,041	2,218	2,857
Jumpers	4 325	4,205	5,122	4,330	4,429	4,801
Langlaagte Estate	11,882	11,731	10,801	11,660	13,193	—
Langlaagte Royal.....	3,629	3,191	2,591	2,606	2,626	2,195
Lisbon-Berlyn	598	295	*	748	—	960
May Consolidated.....	2,200	2,568	3,584	4,145	4,226	—
Metropolitan	2.180	2 175	1 928	1,875	2,209	—
Meyer and Charlton.....	2.831	2 431	2,427	2 527	3,065	3,019
New Chimes	2 561	2,637	2,657	2,445	2,724	2,856
New Clewer Estate	2,310	2 175	1,773	1 707	1,463	1,902*f*
New Heriot	4,583	5,494	5,621	5 751	6,091	5,725
New Kleinfontein.....	2,447	2,552	2,712	2,494	—	—
New Primrose	7,502	7,490	10 271	10.694	11,415	—
New Rietfontein	2.400	2,461	2,019	2,029	2,532	2,448
Nigel	4 256	4 270	3 842	4,461	4 221	4,063
Orion	3 057	3 420	2.823	2,470	2,850	3,070
Paarl Central.....	1,506	1,467	2,012	2,422	2,350	2,714
Princess E tate.....	1,675	1,836	1,938	1,796	1,826	—
Randfontein	3,390	3 591	4,056	3.934	4,857	—
Robinson	14,054	16,508	12,021	12,457	14,142	14,097
Roodepoort United M.R.	3,477	3 898	4,254	4,377	4,175	4,472
Salisbury	1,764	1,850	1,493	1,500	1,650	2,100
Sheba	5.295	4,567	4,637	—	1.683	1,135
Simmer and Jack.....	6.229	7,031	6,618	7,045	7.590	—
Stanhope	1,350	1,352	1,152	1,050	1,100	1,000
Transvaal Gold.....	2,135	2,360	2.650	2,225	—	—
Treasury.....	470	600	*	—	—	—
United Ivy Reef	147	143	156	—	—	—
Van Ryn	2.891	3.037	2,935	2,951	3,108*b*	3,200*b*
Village Main Reef	2,343	2,425	897	—	—	—
Wemmer	3.579	4,966	4,780	5,305	5,715	4,667
Wolhuter	2,745	2,745	2,725	2,470	2,430	2,115
Worcester Exploration...	2,831	2,713	2,528	2,052	2,029	1,965

a Mill shut during February. *b* 26 days. *c* 13 days. *d* Two days' delay; pumps out of order. *f* 23 days. *g* 21 days.

* Return not yet to hand.

The following are the profits or losses (the latter being indicated by an asterisk) made by South African mining companies since the beginning of November:—

	Nov. £	Dec. £	Jan. £	Feb. £	Mar. £	Apr. £
GOLD.						
City and Suburban	14,564	15,067	—	—	—	—
Crown Reef	10,536	10,004	9,385	9,302	—	—
Geldenhuis Estate	9,109	9,400	6,100	—	—	—
Geldenhuis Main Reef...	1,863	1,965	2,055	2,460	2,407	2,638
George Goch	961	3,521	—	—	—	—
Glencairn	7,050	6,000	6,250	7,000	7,300	—
Henry Nourse	2,586	3,381	—	—	—	—
Jumpers.....	5,650	4,750	4,250	4,500	5,750	5,500
Lang'aagte Royal	—	—	—	—	—	—
May Consolidated	1.651	2,732	4,222	6,500	6.005	—
Meyer and Charlton.....	4.909	3,180	2,930	3.780	4,900	5,340
New Chimes	3,529	3,994	—	—	—	—
New Clewer	—	—	—	1,700	500	700
New Heriot	6,226	8,034	—	—	—	—
New Kleinfontein	3.362	2,823	—	—	—	—
New Primrose	10,600	10,384	12,520	13,500	15,221	—
New Rietfontein	2,358	1,829	—	—	—	—
Orion	5,582	6,339	—	—	—	—
Robinson	26,738	36,500	28,500	24,000	30 000	29,000
Roodepoort Un. M. R....	4,832	5,170	6 112	7,340	7,101	8,100
Salisbury	1,967	3.317	1,002	—	—	—
Simmer and Jack.....	2,415	3,300	3,300	6.250	6,750	—
Stanhope	1,722	1,435	—	—	—	—
Van Ryn.....	1,950	3,450	3 305	3,160	2,910	—
Wemmer	4,999	10,800	10,692	8,878	13,088	—
Wolhuter	2,986	3,035	—	—	—	—
Worcester Exploration...	—	—	—	3,401	—	—
DIAMONDS.						
New Jagersfontein	—	—	15,000	15,987	17,125	15,187
COAL.						
Cassel C lliery	—	—	3,300	3.200	3,600	—
Transvaal Coal Trust ...	—	—	4,800	3,800	4,000	—

REPORT ON THE PROPERTY OF THE GREAT DE KAAP (MOODIE'S) GOLD FIELD, LTD., BARBERTON, S.A.

I HAVE personally inspected this property, and have much pleasure in confirming the views expressed by the well known mining expert, Mr. C. J. Alford.

The claims are 500 acres in extent, on the most favourable portion of "MOODIE'S CONCESSION," about four miles from Barberton.

The property lies directly in the Sheba line of reefs. The immediately adjoining mines are the "UNITED PIONEER" and "UNITED IVY," which Companies are in active operation, returning gold in paying quantities; the "UNITED PIONEER" having already produced £100,000 worth of gold, and their shares are now quoted at over 75 per cent. premium. The "ROSETTA" Creek has water running all the year round, and divides the claims about the centre of the property. On its western extremity lies the "IVY" Creek; eastern, the "ST. BERNARD" Creek; and on the south, the "HIGHLAND" Creek; north, the junction of "ST. BERNARD'S," "ROSETTA," and "CONCESSION" Creeks. "SPECIMEN HILL," and the slopes of the "DE KAAP" Valley. On the east side of the "ST. BERNARD" Creek is a broad dyke of trap rock, which protrudes at right angles to the general formation, taking a line about north and south. On the western side of this Creek, some distance up, lies a huge mass of conglomerate or pudding stone (some millions of tons—average test crushings, 13 dwt.), exposed and outcropping a ridge on a high point of the hill down to the Creek. I panned several samples from this spot, which gave a very favourable result.

The position of this conglomerate is such that it can be easily worked as an open quarry. It lays between two dykes, one on or near the "ST. BERNARD'S" Creek, running north and south, the other on "ROSETTA" Creek, which is never dry. A battery erected here would have abundance of water.

On the western side of "ROSETTA" Creek there are three distinct layers of a quartzite reef which run from the adjoining "Ivy" and "Pioneer" properties, and it is my opinion that the richest part of the "UNITED PIONEER" Reefs will be found in the "GREAT DE KAAP" Ground. It is also the general opinion in the district that the "SHEBA" Reefs pass through your property. I have myself traced the Sheba formations in this direction, and on my last visit to Moodie's, after a careful inspection, I am of opinion that the "PIONEER" and "UNITED IVY" Reefs traverse the "GREAT DE KAAP" property.

In tracing the "UNITED PIONEER" and "IVY" I have come to the conclusion that if these reefs were cut at the point of intersection with the dykes referred to, that highly auriferous zones will be discovered, probably richer than any yet opened up in the district, and in this view I am confirmed by Mr. Alford in his report, from which I extract the following:—

> "That it appears by observation of the district that in many cases auriferous deposits have been developed at the points of junction. Two of these dykes appear to cross the 'GREAT DE KAAP' Property, one at each of the Creeks, and the alterations of the rocks in their vicinity can be plainly observed."

The return from the "UNITED IVY" Reef for 1893 and 1894 was 8,094 tons, valued at £24,282.

The value of the "PIONEER," whose shares are now quoted at 9-16th premium, is well known.

My concluding remarks refer to portions of Mr. Alford's report.

SITUATION AND GENERAL FEATURES.—They are carefully and correctly described by Mr. Alford.

TRANSPORT.—The railway next month connects Barberton with Delagoa Bay, and removes any difficulties of transport. As an example, the cost of coal, now about 40 per ton, will be reduced to 20s.

LABOUR.—I heartily endorse Mr. Alford's remarks, and may add that with present Swaziland settlement by Transvaal Government, Swazie (native) labour should be much cheaper.

WATER.—Ample motive power can be had on the Queen's River. There is also plenty of water for milling purposes in the "Rosetta" Creek; and as Moodie's Company has established an electrical installation, and a cable connecting this installation with the mill of the United Ivy Mine adjoining this property, thereby reducing the cost of milling to about 2s. 6d. per ton of ore crushed. The "Great De Kaap" Company can, if necessary, avail themselves of this power, with great advantage.

GEOLOGICAL FEATURES.—This is very correctly described by Mr. Alford.

CONCLUSIONS.—Four tunnels have been driven on the property. The longest, 400 ft., has 150 ft. to drive to cut the "PIONEER" Reef. Altogether some 1,120 ft. of driving has been done. Since my last inspection, I understand that the further development work suggested by Mr. Alford has been carried out to a very considerable extent, at a very large expenditure, with the result of opening up the mine in a thoroughly practical manner.

I consider the "GREAT DE KAAP" an excellent and valuable gold mining property. It is surrounded by proved and paying mines, three well-known reefs intersect it, and should return large and permanent dividends to its shareholders

LOUIS P. FOWLER, M.E.,
(Late of Engineers' Department, C.G.H., and Messrs. Wilcox, Reed & Co.; and Perrin & Yarrell Mining & Consulting Engineers.)

Barberton, South Africa, April 1895.

The properties acquired by the Company adjoin the celebrated "CROESUS" and "BROWN HILL" Mines, and are reported to possess the continuation of their reefs in addition to several others, one of which is over 30 feet wide, and rich in gold.

The following telegram has been received by the Bank of Adelaide (the Company's Bankers), dated 11th April, 1895: "Croesus South Transfer complete."

Since the Property has been transferred to the Company, the Directors have received a confirmatory Report (enclosed) from Mr. Henry Wright as to the valu e of the Property.

THE CROESUS SOUTH UNITED GOLD MINES, LIMITED.

(HANNAN'S FIND, COOLGARDIE, WESTERN AUSTRALIA).

(Incorporated under the Companies Acts, 1862 to 1893.)

CAPITAL - - - - - - - - £120,000,

DIVIDED INTO 120,000 SHARES OF £1 EACH,

Of which the Vendor has agreed to accept £80,000 in Shares credited as fully paid in part payment of the purchase price.

ISSUE OF 40,000 SHARES OF £1 EACH,

PAYABLE AS FOLLOWS:—

On Application, 1s.; on Allotment, 4s.; one month after Allotment, 5s.; and the balance as required at intervals of not less than two months by calls not exceeding 5s. each per Share.

The Articles of Association of the Company provide for the issue of share warrants transferable to bearer after all the instalments shall have been paid up, and the Directors will, if Shareholders so desire, issue without charge, to original shareholders, share warrants for not less than five shares each.

Directors.

COL. LAWRENCE HEYWORTH, J.P., Ormsby Hall, Alford, Lincs., Chairman of the South Wales Colliery Company.
H. SETON-KARR, ESQ., M.P., J.P., 12, Lower Sloane Street, S.W.
LIEUT.-COL. J. B. LINDSELL, R.E., The Elms, Old Windsor.
A. E. WALTON, ESQ., F.G.S., M.I.M.M., 8, Drapers' Gardens, E.C.
F. W. NORTH, ESQ., F.G.S., Late Government Engineer, Cape Colony and Natal, 18, St, Swithin's Lane, E.C.

Bankers.

THE MANCHESTER AND LIVERPOOL DISTRICT BANKING CORPORATION (LIMITED), 75, Cornhill, London, and Branches.
Messrs. BROWN, JANSON, and CO., 32, Abchurch Lane, E.C.
THE WESTERN AUSTRALIAN BANK, Perth, Western Australia, and Branches.
(London Agents:—THE BANK OF ADELAIDE, 79, Cornhill, E.C.)

Solicitors—Messrs. WAINWRIGHT and CO., 9, Staple Inn, W.C.

Auditors.—Messrs. JACKSON, PIXLEY, BROWNING, HUSEY, and CO., 58, Coleman Street, E.C.

Brokers.

LONDON—Messrs. THOS. CARMICHAEL and CO., Bank Chambers, 38, Throgmorton Street, London, E.C., and Stock Exchange.
LEEDS—Messrs; JOHN REDMAYNE and CO., 79, Albion Street, Leeds.

Managers in London and Western Australia.

Messrs. BAINBRIDGE, SEYMOUR, and CO., 13, St. Helen's Place, E.C., and Perth, Western Australia.

Secretary and Offices.

LONDON—Mr. A. G. HAMMOND, Blomfield House, 52, New Broad Street, London, E.C.
PARIS—19, Rue Louis le Grand, Paris.

PROSPECTUS.

This Company has acquired, and is formed to develop and work the Mining Blocks held under Leases Nos. 63, 89, and 249, known as the "Croesus South," "Brownhill North" (also known as "Goldhill North"), and "Britannia" Leases, covering a total area of about 27 acres, and situated about 2½ miles south of Hannan's Reward, Coolgardie, Western Australia.

It appears from the reports of well-known mining experts accompanying this Prospectus and of Mr. Charles B. Anderson, Mine Manager, and supplied by the Vendor to the Directors of the Company, that extensive work has been carried out on the most important reefs which run through the properties, and that eight shafts have been sunk to depths varying from 8 to 60 feet, and other development work has been done, proving the continuity of the lodes, and that the leases contain several gold-bearing reefs, as shown by the reports of Chas. B. Anderson, viz.:—

No. 1. The well-known "Croesus" Reef, 2 feet wide. The gold in this reef is very heavy, and has been proved to a depth of 25 feet from the surface.

No. 2. The "Greenlode" Reef, which runs through this property to the length of 30 chains. This reef is a huge formation, carrying heavy gold, and will in the near future rank as the principal reef on Hannan's.

No. 3. The reef known locally as the "Mystery" also runs throughout the property, is 30 feet wide, and carries fine gold.

No. 4. A reef 5 feet wide running parallel to the "Greenlode" Reef.

According to reports, there is a good position on the property for the construction of a large dam for the conservation of water, as two watersheds unite within its boundaries. In addition to this, it is believed that water suitable for mining purposes can be obtained at a moderate depth, and the timber for mining and fuel is abundant, the surrounding country being thickly wooded.

The Directors are advised by Messrs. Bainbridge, Seymour, and Co., that in order to work the mines at a profit an average yield of only 15 dwts. of gold to the ton would be required, while the Reports show that the reefs running through the properties should give a return of between 2 ozs. and 5 ozs. to the ton.

The following agreements have been entered into, viz.:—(1) An agreement dated 21st February, 1895, between Mylius Cohen, as Attorney for the Vendor, and Percy Edward Pearson, as Trustee for the Company; and (2) an agreement dated the 21st February, 1895, between the said Percy Edward Pearson and Messrs. Bainbridge, Seymour, and Co. Under the first agreement the Vendor, who fixed the purchase price, undertook to transfer the above properties, free from all encumbrances, to the Company, and to pay all expenses attending the formation and flotation of the Company up to the first allotment of Shares, in consideration of the sum of £95,000, of which £15,000 is payable in cash and £80,000 in Shares, thus leaving £25,000 available for working capital.

This transfer has now been carried out.

The second agreement is for management in order to insure successful working of the Company.

There are other agreements entered into by the Vendor, to which the Company is not a party, which are or may be contracts within the meaning of the 38th Section of the Companies Act, 1867. Applicants shall be deemed to have had full notice of such agreements, and to have agreed with the Company as Trustees for the Directors and other persons interested to waive any further compliance with that section or otherwise, and also to waive all claims for compensation under the Directors' Liability Act, 1890, in respect of any mis-statement made in the belief that it was true, and subscriptions are received upon that condition only.

Since the Property has been transferred to the Company the Directors have received a confirmatory report from Mr. Henry Wright, which also accompanies.

Particular attention is directed to the Reports of Mr. W. H. Matthews, at present General Manager of Bayley's Reward Claim, and others. The originals of these Reports, together with the plan, can be seen at the Offices of the Company. The contracts mentioned above and the Memorandum and Articles of Association of the Company can be inspected at the Offices of the Solicitors to the Company.

Applications for shares should be made on the Form accompanying this prospectus, and, together with a deposit of 1s. per share, should be forwarded to the Bankers of the Company before the th day of May, 1895, on which date the Subscription List will be closed.

Prospectuses and Forms of Application for shares may be obtained from the Bankers, Solicitors, Brokers, or Secretary to the Company.

If no Allotment be made, all application money will be returned in full.

REVIEW.

SIAM IN SKETCH.

"Notes of a Journey on the Upper Mekong, Siam." By H. Warington Smyth, of the Royal Department of Mines and Geology, Bangkok. London: John Murray, 50, Albemarle Street, W.

Siam, the land of autocracy, mules, and a national anthem with no melody in it, occupies a peculiar position among Eastern countries. Its territories are too small, and its people too unenterprising to secure so large a measure of attentive regard as is lavished by Englishmen upon the two parties to the late war; while its contiguity to Burmah, and the inviting mystery overhanging its deep forests and erratic rivers prevent it from passing altogether out of the public mind. The progress of French colonisation upon the Eastern side, and the stir that has sometimes been made over a disputed border have latterly drawn an occasional notice to the Mekong river; but to many, Siam is still a country inconveniently encumbered with ivory, and swarming with elephants heavily laden with treasure.

A small and unpretending, but interesting, and, in its way, important, contribution to the English descriptive literature of Siam is before us in the form of a lecture delivered by Mr. H. Warington Smyth before the Royal Geographical Society, and now published in an artistic little volume that might usefully serve as a model of how men of taste and culture should present their works to the public. Mr. Smyth started in 1892 upon a journey along the Mekong Valley for the purpose of examining for the Siamese Government what was said to be a very rich deposit of rubies and sapphires. The purpose of the expedition necessitated rapid movement, and must have been highly unfavourable to anything like a close and systematised study of the people, to say nothing of the various geological features lying along the route. Nevertheless, Mr. Smyth, by an abundant exercise of his facility of observation, and an unwearied use of his pencil, has contrived to concentrate in these five score pages a series of vivid and spirited pictures of Siamese life, rapidly executed indeed, but possessing a certain deep interest for the student of manners, and, doubtless in the main, faithful to the fact. The compass of the book is, of course, too restricted to allow of anything like a thorough exposition of the manners and customs of the interesting people among whom Mr. Smyth's lot was for the time being cast; but there is a distinct value attaching to this little collection of sketches that will be apparent at once to those sufficiently interested in the matter to take up the work. One of those excellent maps for which the Royal Geographical Society is famous accompanies the book, which is also abundantly illustrated with spirited pen-and-ink sketches.

— The secretary of the CONSOLIDATED GOLD MINES OF WESTERN AUSTRALIA (LIMITED) announces that letters of allotment for the whole of the present issue have been posted.

— The directors of the PILBARRA SYNDICATE notify that the three mining leases, known as the Bamboo King, Princess May, and Treasure, all situate in the Pilbarra gold field, upon the Bamboo line of reef, have been acquired by and registered in the name of this syndicate, also that it is the intention of the directors to proceed vigorously with the further development of the properties.

— The MYSORE GOLD MINING COMPANY (LIMITED) has sold the gold obtained during the month of March, which realised £21,157 14s. 10d

THE TIN DEPOSITS OF DURANGO, MEXICO.*

By WALTER RENTON INGALLS.

VAGUE references to tin deposits in Mexico are scattered throughout technical literature, and that country has been looked to as a likely source of a part of the world's supply of tin at no very distant date; but thus far nothing but occasional small lots have come forward, so that the notion has arisen that these mines are either mythical or unworkable. So far as I am aware, there has not yet been published any description of the tin deposits of Mexico except a few brief references; and this paper, based on a study of them made in 1892, is therefore offered.

It is uncertain when tin was first discovered in Mexico, but it is likely that the metal was known and worked by the Aztecs and kindred tribes at the time of the arrival of the Spaniards. Prescott, indeed, in his "Conquest of Mexico," speaks incidentally of this metal as being in use among them, saying that they obtained it from the mines at Tasco. In any case, there is no doubt that the mines were exploited by the Spaniards at an early date. The first exact reference to the existence of tin ore in Mexico, however, is probably to be found in Humboldt's *Essai Politique sur la Royaume de Nouvelle Espagne*. The author says that at the time of his visit to Mexico (1803) tin was obtained from washings at Gigante, San Felipe, Robledal, and San Miguel el Grande, in the Province of Guanajuato, and between the towns of Xores and Villa Nueva in Zacatecas.

The exports of tin from Mexico to other parts of America in 1803 amounted to 58·5 quintals, equivalent to 5934½ pounds.

Besides the localities mentioned by Humboldt, tin has been found in Mexico at the following points:—Durango, Cacária, and Potrillos, in the State of Durango; Canitas, Sain Alto, and Chalchiuites, in Zacatecas; Bolaños, Comanja, Teocaltiche, and Paso de Sotos, in Jalisco, and on the Ranchos de la Peña and San José de Estanos, in the same State; at the Cerro de Zamorano, and in the Distritos de Chichimequillas and Bravo, in Querétaro; at the Cerro del Chiquihuite, in Aguas Calientes; in the Distritos de Ures, Arizpe, and Saguaripa, of Sonora; at Catorce, Valle San Francisco, and on the Mesas de la Cruz and San José Buenavista, in San Luis Potosi; also near the Santuario del Desierto, in the cordillera extending south-east from the capital of the State, San Luis Potosi; at Guanajuato, Dolores, Villalpando, Hidalgo San Diego, and between Santa Rosa and la Fragua, in the State of Guanajuato. This list is probably incomplete, and being made up from the casual references of travellers and others, it is likely that many of the places mentioned are imperfectly described by name and cannot be found on the map. The list is given here merely for the purpose of showing the widespread distribution of tin in Mexico. There are records of mining at only a few of these places, the most important in this respect being Cacária and Potrillos in Durango, and Teocaltiche in Jalisco.

Potrillos, which is the name of one of the outlying ranches of the great ranch of Guatimape, is situated in the Sierra de San Francisco, a spur of the Sierra Madre, about 100 miles north of the City of Durango, and 25 miles from Coneto, where some very ancient silver mines are still worked in a desultory manner. About 12 miles north-west of Potrillos is the famous Promontorio Mine, which in recent years has been one of the largest producers of silver in Mexico. The region is rough and rugged, seamed with deep and narrow ravines, or "arroyos," down which the water rushes in torrents during the rainy season. Trails have been opened through it in various directions, but, with the exception of the main road to Coneto, there are none over which a wagon can be driven. All transportation (except over this road) is done necessarily, therefore, by means of horses, mules, and burros, used as pack-animals.

The general altitude of the valleys of Potrillos is probably about 6500 to 7000 feet, while the crests of the mountain ranges are from 1500 to 2500 feet higher. The water falling in this district drains to the north, eventually reaching the River Nazas. From the middle of July to the middle of October the precipitation is extraordinarily heavy; during the remainder of the year there is no rain, and by April the drought becomes burdensome. The region is sparsely timbered with pine, scrub-oak, and madrona, or mountain mahogany. The two last are valueless for everything but firewood, but very fair lumber can be sawed from the pine.

It is uncertain when tinstone was first discovered in this district, but in 1839, at least, there was a considerable population engaged in getting it from the stream-beds, among them being a German colony established at Gazapera, or Sapioris, which was then the chief centre of the industry. The mineral was obtained mostly from the placers, but the outcrops of certain of the veins were also worked somewhat; the Gazapera Grande Mine and those on the Arroyo de Colorado (Arroyo de Estaño), subsequently known as the Grant, Candelaria, and America Mines, were opened at this time. The tin-bearing gravel and the ore from the veins, which could be crushed with great ease, were washed in *bateas* and on *planillas*, the latter being simple inclined planes, set up at the edge of the stream, whence water was thrown on the ore, washing down the gangue and leaving the heavy tinstone behind. The method of mining the gravel was to sink pits to bedrock in the arroyo bottom, which was in no place very deep, and from them to dig out under the non-productive overburden. The old pits at Gazapera are now filled with gravel that has been washed in by the rains; and in many places large trees are growing in them. Here and there are the ruins of stone huts and small smelting furnaces; but otherwise there is no evidence of former mining operations in this range, which is now given over to cattle alone.

The black tin produced in the Potrillos region was in part smelted there and in part sent for reduction to Coneto. Its value was held to be from $1·50 to $2·50 per *arroba* (25·36 lbs.). The smelting furnaces were small shaft furnaces, built of uncut stone, and lined with clay. One of these furnaces, 5 feet from top to hearth, was 6 by 9 inches at the top, and 9 by 9 inches at the tuyere, which was 3½ feet below the top. Another, 4 feet high, was 9 by 7½ inches at the top, and 6 by 7 inches at the tuyere, which was 3 feet from the top. The hearth sloped sharply to the tap-hole, and metal and slag were drawn into a basin outside the furnace. This basin was nothing but a hole in the ground tamped solidly with clay. The blast was furnished by a bellows made of ox-hide, with a piece of iron pipe for a tuyere. The fuel was, of course, charcoal.

The tin-mining industry did not continue long in Potrillos. In 1846 the Indians came down from the north and drove the miners away. The region was infested by these savages until 1867, when they, in turn, were driven out by the Federal troops. During this time (in 1861), it had been visited by Captain Box and his colony of 160 Americans, in search of the lost gold mine known by his name; but they did no tin mining, and, indeed,

* From a paper read at the Florida meeting of the American Institute of Mining Engineers.

after a very short sojourn, came miserably to grief. Immediately after the Indians were expelled, miners from Coneto straggled into the diggings again, and three Americans, whose names are not recorded, established a camp near Potrillos, and engaged in mining and smelting the ore. The stream-beds had been nearly exhausted, however, and there were at no time so many miners there as there had been 30 years previously. The region was still very unsettled, being overrun by roving band of Indians, and terrorised by the famous bandit, Heraclea Bernal, and his company, who levied tribute upon the towns and *haciendas*, and burned and pillaged until 1887, when he was killed, and his followers dispersed. This condition of affairs explains the lack of reliable information as to the tin deposits of this part of Mexico, at least.

The geology of the Potrillos district is simple. The prevailing country rock is rhyolite and rhyolite-tuff, chiefly the latter, of recent origin, like that which covers vast areas in the northern and northern-central parts of Mexico. Beyond the limits of the sheet of young igneous rocks, a gray, finely crystalline granite is exposed, and it is probable that this is the underlying rock. In the direction of Promontorio the Sierra de San Francisco is composed wholly of this granite, which is there intersected by numerous silver-bearing veins. Of these, however, the Promontorio is the only one that has yet proved to be rich. The rhyolite-tuff of Potrillos is generally a greyish white, soft rock, which, even at the depth of 150 feet, is very much decomposed, and, upon exposure to the air, rapidly crumbles. At one of the shafts that was sunk in 1891, a hut was built by certain of the natives, who used for its walls the fresh blocks of stone hoisted from the openings underground. Soon after the summer rains began, these walls became so soft that a knife could easily be thrust into them to the depth of its haft; and, finally, after six weeks or two months, they fell in a common heap of sand and clay. The rock was generally of this kind, but in the Candelaria Mine changed suddenly to a hard, brittle, purplish variety, which has been pronounced a devitrified obsidian. Its colour faded somewhat, however, under exposure on the surface. This rock was so hard and brittle, that the same miners who had been making easily a headway of 4 feet per day, were able to accomplish only 1 foot with difficulty. It occurs in the midst of the rhyolite-tuff in irregular masses, the one gradually changing into the other.

The ordinary rhyolite-tuff of the region shows a most striking fluidal texture, which is so marked in certain places that the exposed outcrops have the appearance of stratification. Elsewhere it is often spherulitic, with concretions as round and as large as a cricket-ball. As accessory minerals, the rock contains biotite, hematite, quartz, hyalite, and chalcedony, fluorite, and topaz, the last in grand crystals of various colours, and as much as 0·6 inch in length. Excellent specimens of free crystals can be found in the beds of dry water-courses on the hillsides, the soft matrix having been disintegrated and washed away.

In many places the surface is covered with large concretions of chalcedony, usually milk-white or ferruginous, which are found in the mine openings in close association with the tin ores. The rhyolite-tuff of Potrillos also contains hyalite, but affords no such fine specimens as have been sent from other parts of Mexico to the mineralogical cabinets of New York and Europe. Another noteworthy surface characteristic of the region is the existence in certain parts of small rounded fragments of obsidian (about the size of ordinary marbles), weathered grey on the surface, but black and shining when cracked to expose fresh faces.

The sheet of rhyolite-tuff at Potrillos has a well-defined joint-structure, the principal planes striking in a general east and west direction and dipping south, and is intersected by a series of faults with the same strike and dip as the joint-planes. It is not unlikely that the jointing and faulting were produced at the same time by the same force. There is no way of measuring the dislocation occasioned by the fault series, but it was probably small, the fractures being smooth and regular, with no evidence of brecciation of the country rock, or in-dragging of fragments. It might be doubted, indeed, whether these apparent fractures were faults at all, and not merely joint-planes, since ordinarily they are marked only by a thin selvedge of kaolin not much thicker than a sheet of wrapping-paper, and the joint-planes, when freshly exposed, show a similar greasy surface; but in some places the fault-seam is as wide as 0·2 inch, with white or black clay, and in the Candelaria Mine, where the rock is hard, there was actual evidence of motion in the slickensides which had been preserved. In the case of certain of the best-defined faults, there was a well-marked sheeting of the country rock on each side of the main fracture, which divided it into bands about 1 or 2 feet wide.

Cassiterite occurs in the rhyolite-tuff along these fault-planes in aggregations of nuggets (called *guijilos* by the native miners) and occasionally in bands of crystalline mineral replacing the country-rock between two sheeting-planes. With the former class of ore, which is the more usual, there are all gradations from nests of pure mineral down to small particles disseminated in gangue, so that the whole may not assay as much as 1 per cent. of metal. The ore that has been mined, however, has generally shown from 3 to 10 per cent. of metal, and, as thus obtained, has been broken from breasts 3 or 4 feet wide. The ore is found in pockets (*bolsas*), which are never large, occurring in a series, or chain, connected by thin stringers of ore, and having a general dip to the west at an angle of about 45°. Thus the form of the ore bodies is represented somewhat by that of a long bean-pod. In none of the crevices, so far as opened in 1892, had more than one channel of ore been disclosed; but as the linear development had not been extensive, this was not proof positive that parallel channels did not exist. However, sufficient work had been done to show that if there were such channels, their distance from the known ones was out of proportion to the width of the latter.

These ore bodies are exceedingly ill defined, passing into the barren country rock by insensible gradations. Beyond the ore channel, or string of pockets, on the line of the fissure, there is no vein matter, but merely a thin seam cutting the country rock. Although narrow, this is usually well-defined upon fresh exposure, but soon becomes obliterated under the action of the air. In the Candelaria Mine, however, where the country rock suddenly changed to the hard, brittle, devitrified obsidian, as previously mentioned, there was a crevice about 12 inches wide, which was filled with white granular quartz, although in the soft rock immediately east the fissure was marked only by the ordinary seam. Incidentally may be mentioned a well-defined vein of crystalline calcite, about 3 feet wide, which occurred in the neighbourhood of some of the principal tin veins, and had the same general strike and dip as they had.

The cassiterite of Potrillos has fully as remarkable characteristics mineralogically as have the deposits in which it occurs. It is found generally in mammillary or botryoidal concretions, less frequently in a crystalline form, and in the water-worn pebbles from the stream-beds takes the form of wood tin with extraordinary striations. In colour it is often black, but very frequently brilliant red, and occasionally yellow. The red crystalline variety often sparkles with such brilliancy that the name "ruby tin" seems appropriate. In the veins the tin ore is invariably associated with micaceous hematite, which is also found very generally in the country rock as an accessory mineral. Dana speaks of durangite, the fluo-arsenate of sodium and aluminium, as being found in a vein 4 to 6 inches in thickness "in the Barranca Mine, 18 miles north-east of Coneto." There was an old mine known by this name in the Sapioris district, but it had been abandoned as valueless, and in my examination of it I failed to discover the mineral referred to; nor did I find it in any of the mines of this region. The tin ores were, indeed, somewhat uninteresting with respect to accessory minerals. There was no evidence of wolfram compound either in the ore or in the metal smelted from it. A very remarkable fact was developed, however, in the latter. Two lots of 56 pigs and 310 pigs respectively, together amounting to about 25 tons, were shipped to the United States in December, 1891. Analyses of these, by Dr. Gideon E. Moore, of New York, gave the following results:—

	Per cent.	Per cent.
Tin	92·6104 ..	90·6047
Antimony	7·3139 ..	9 2850
Arsenic	trace ..	trace
Lead	0·0331 ..	0·0555
Bismuth	0 0255 ..	0·0276
Iron	0·0171 ..	0·0270
Total	100·0000 ..	99·9998

In no portion of the ore were independent antimony-bearing minerals distinguishable by the eye, and it was probably chemically combined with the cassiterite, as the late Dr. Genth has shown to be the case with arsenic in certain Mexican tin ores*

Float tinstone was found abundantly in the vicinity of the veins, and in the arroyo-bottoms pockets of rounded pebbles were occasionally discovered. There was, indeed, every evidence of the existence of mineral in large quantity, and the comparative poverty of the veins when actually opened seemed somewhat incomprehensible. The explanation appeared to be, however, in the probability that the number of mineral deposits was much greater than was exposed. From the previous description of their occurrence it is evident that exploration work would be extremely hazardous, except where there was mineral to be followed from the beginning. The surface of the country rock was intersected by numerous parallel fractures, which might be small fault fissures, or might be only joint planes. Mineral might be found in any of them, but it is obvious that the chance of such a discovery was exceedingly small, and that the uncovering of an ore body would be more the result of blind luck than of intelligent prospecting. As a matter of fact, the region had been looked over thoroughly during a period of 50 years, and numerous discoveries of tin stone had been made, but none except where there was an actual outcropping. There is no doubt that many of these small veins are not in fault fissures at all, but in joint planes merely. As further evidence of such occurrence of the ore may be cited the result of certain surface prospecting work near the Grant Mine. It being desired to lay bare the fault seam that was followed in that mine in order to prospect for parallel ore chutes from the surface, its course was located to the west by survey, and the fissure was then exposed by costeaning. Rounded fragments of tinstone were found in the surface loam (about 1 foot deep) and especially in the thin layer of hard clay which rested on the bed-rock and was simply the decomposed surface of the latter; but this float-mineral extended above the fault-crevice, and was followed by a trench several hundred feet long over the top of the hill without finding the source whence it came. The mineral found in this trench varied from the size of a small pea to pieces weighing 2 lbs. All were more or less smooth and rounded, but this was not necessarily evidence of attrition, the botryoidal and mammillary concretions found in the mines showing the same characteristics. The only inference, therefore, was that these fragments had resulted from numerous veinlets in the country rock, which had been worn away. It is this which has occasioned the wide distribution of float and stream tin out of proportion to the deposits in place that have been uncovered.

The physical conditions of the region, however, are opposed to the accumulation of large alluvial deposits that might be profitably worked. The hill and mountain sides are, in most parts, exceedingly steep, while the ravines are deep and narrow, the water rushing through them during the rainy season in torrents that move huge boulders. Under these circumstances there was no opportunity for the formation of broad and thick deposits of gravel. There is undoubtedly much mineral in holes between boulders in the stream bottoms, but it would be very difficult to recover this on an industrial scale. As for the drift deposits on the hillsides, they are mostly too poor to pay for the expense of bringing water to them. The alluvial diggings of the region, which were formerly productive, were chiefly in the part known as Sapioris, or Gazapera; and these are now exhausted. In short, the best evidence of the present poverty of these placers is the fact that they were abandoned by the native miners, who were born and brought up in the vicinity, were perfectly familiar with the ores, and understood the method of smelting them in furnaces which could be constructed at an expenditure of only their labour; and yet, during the hard times that have prevailed in this part of Mexico recently, they have made no attempt to re-engage in this industry.

There is some evidence (but hardly enough to warrant the conclusion) that the source of the tinstone of Potrillos existed as an original constituent in the country rock. Repeated tests of the country rock selected at considerable distances (up to 100 feet) from any known ore body, showed small amounts of tin, occasionally as much as 0·30 per cent. of SnO_2, but usually less than 0·01 per cent. These tests were made by crushing the sample very fine, and concentrating mechanically 500 or 1000 grammes. A curious and noteworthy occurrence of mineral was discovered in driving a crosscut to intersect the Grant vein. At a distance of about 100 feet from the latter—no ore having been observed in the vicinity except as frequent small traces of tin in the country rock—a bunch of ore weighing about 30 pounds was encountered. A sample of it assayed 15 per cent. of tin; the country rock immediately surrounding it gave about 0·2 per cent. There was no evidence of a fissure of any kind at this place, and the bunch of ore mentioned was all that was discovered there.

Bischof has proved that tin-stone can be dissolved in water containing alkaline carbonates, whilst Kjerulf and Daubrée have demonstrated that it may be deposited either from solutions or from gaseous emanations. Whether, in the case of the Potrillos deposits, the original source of the mineral was in the country rock or not, it was apparently deposited in parts of the country-rocks near small crevices which allowed the solutions to pass. These cases, were in some cases, fault-fissures, and in others merely joint planes. Such occurrences as the small bunch of ore found in the Grant crosscut can, of course, be regarded only as local segregations.

After Potrillos, the next extensive development in Mexican tin fields have been carried out in the Cacária district, about 40 miles north of the City of Durango. These mines were first discovered about 1870 (possibly two or three years earlier) by native prospectors, who showed their specimens to certain Potrillos miners, and thus induced the latter to visit the locality. In 1873 the tin-bearing area was secured by Mr. Marcus Ison, of Durango, under what is known as the Rio Verde concession, covering 58 square leagues. In 1881 this property was taken in hand by the Durango Tin Mining Company of St. Louis, which explored it on an extensive scale during that year and the next, when the enterprise was abandoned as unprofitable, and the mines reverted to their original owner. Since that time they have been worked only in a desultory manner by natives chiefly, who have smelted in their rude furnaces a small amount of metal for local consumption.

The Cacária mines are situated in the southern extension* of the Sierra de la Candela, a spur from the Sierra Madre. The physical characteristics of the district are identical with those of Potrillos, and the geolgical features also ars practically the same. I did not visit this district, but have received information concerning it from Mr. H. Winninghoff, who was in charge of the developments made by the Durango Tin Mining Company in 1881-82. The substance of his communication is as follows:—

> The formation of the entire mountain range in which the tin is found is quartz-porphyry. The veins are irregular fissures filled with red clay (decomposed country rock), disseminated through which a generally very impure tin ore is found in grains, scales, and nuggets. Associated with the cassiterite are found arseniate of lead and molybdenum and tungsten minerals. The vein-matter does not contain on an average over 15 per cent. of ore, which may not give more than 25 per cent. SnO_2.†
>
> Stream tin was found in a number of *arroyos* of small extent, but the richest and most accessible of the alluvial deposits were long since exhausted by native miners. Those which remain cannot be easily worked on account of the scarcity of water, there being only a few streams, and those insignificant. On account of the natural conditions, it would be hardly practicable to dam up the water during the rainy season.

The most extensive developments in this district were made in the Diablo Mine, which was opened to a depth of 273 feet.

The results of an examination of the ores of the Cacária district, made in 1885 with characteristic thoroughness by the late Dr. F. A. Genth, were published in the *Proceedings of the American Philosophical Society*, xxiv., 1887, p. 23. Two paragraphs from this paper, containing a description of the mines, as communicated by Mr. John L. Kleinschmidt, may well be quoted here.

> The central body of the Sierra de Canatlan, in which the mines which have furnished these ores are situated consists of quartz-porphyry, which in some places is traversed in a net like manner by small veins of tin ores. About one mile from the Mine del Diablo doleritic rocks occur.
>
> The vein of the Mina del Diablo has been traced for about one mile in length, has a thickness of from 18 inches to 2 feet, is almost perpendicular, and is perfectly separated from the porphyry by argillaceous selvedges. It consists of a decomposed, white clayey material containing druses of quartz with tin ores.

Dr. Genth reports the following analysis of Mexican tin ores:

	I.	II.	III.	IV.	Va.	Vb.	VI.	VIIa.	VIIb.	VIII.	IX.	X.
Specific gravity..	6·820 ..	6·594 ..	6·911 ..	6·535 ..	6·714 ..	6·712 ..	6·581 ..	6·160 ..	6·219 ..	6·509 ..	6·199 ..	6·496 ..
SnO_2	92·84 ..	93·98 ..	92·01 ..	92·09 ..	86·99 ..	86·81 ..	92·96 ..	84·20 ..	84·30 ..	92·50 ..	89·90 ..	93·13 ..
Fe_2O_3	4·12 ..	5·62 ..	5 82 ..	5·45 ..	11·56 ..	12·73 ..	4·58 ..	1·31 ..	1·55 ..	0·22 ..	0·10 ..	0·20 ..
As_2O_5	trace ..	— ..	— ..	2·11 ..	trace ..	— ..	1·25 ..	9·85 ..	10·34 ..	4·56 ..	5·80 ..	3·18 ..
CuO	trace ..	— ..	0·07 ..	— ..	0·11 ..	— ..	trace ..	trace ..	trace ..	0·16 ..	0·20 ..	0·09 ..
ZnO	— ..	— ..	— ..	— ..	— ..	— ..	0·57 ..	3·05 ..	2·96 ..	1·89 ..	2·43 ..	2·71 ..
SiO_2	2·70 ..	0·23 ..	1·07 ..	0·66 ..	0·57 ..	0·52 ..	0·44 ..	0·35 ..	0·30 ..	0·24 ..	0·55 ..	0·43 ..
Ignition	0·34 ..	0·24 ..	0·27 ..	0·07 ..	0·20 ..	0·34 ..	0·26 ..	0·39 ..	0·57 ..	0·26 ..	0·40 ..	0·32 ..
Total	100·00 ..	100·07 ..	100·24 ..	100·33 ..	99·43 ..	100·40 ..	99·36 ..	99·15 ..	100·02 ..	99·83 ..	99·33 ..	100·06 ..

I. Bright red; from Durango.
II. Brick red; from Coneto (Potrillos).
III. A large pebble, resembling compact hematite; from Durango.
IV. Dark brown; from Coneto (Potrillos).
Va,b. Bright brick red; from Mina del Diablo, Cacária.
VI. Dark brown: from Guanajuato.
VIIa., b. Yellow; from Mina Varosa (probably this is an error for "Barossa"), Cacária.
VIII. Yellow from Mina Varosa, Cacária.
IX. Brownish yellow; from placers, Cacária.
X. Brownish yellow; source not stated.

* Since this paper was put in type I have made an analysis of a specimen of tin from a native smelting furnace at Canitas, which showed 6·83 per cent. antimony, the other impurities being lead and iron. The ore at Canitas resembles that of the State of Durango, and like that occurs in decomposed rhyolite and rhyolite-tuff.

* Called variously Sierra de Cacária and Sierra de Canatlan.

† This is equivalent to a tenor of only 3·75 per cent. of black tin in the vein matter. Compare with the yield of Potrillos ore. The delusion as to the extraordinary richness of the Durango tin fields is largely due to the array of specimens of the remarkable nodules of cassiterite found there.—W. B. I.

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LONDON: MAY 11, 1895.

DEEP LEVEL MINING ON THE RAND.—I.

NO apology is needed in presenting to our readers some considerations on the all-absorbing question of Deep Level mining on the Witwatersrand. Very many subscribers to *The Mining Journal* are directly interested in the welfare of the great South African gold field; and even those who are not directly so, cannot be insensible to the beneficial effect upon mining speculation, and we may even say upon speculative business in general, which has resulted from the success that has attended "Kaffir" ventures, and the consequent general healthy tone of the market which has succeeded the long period of depression from which we have so recently emerged. If an independent witness to the favourable influence of South African mining upon business in general is required, we can find such in Sir WILLIAM HARCOURT'S recent Budget speech, in which he stated that a great increase in the general Stamp Duties was realised in the last six months of the year, £300,000 of which was due to the London Stock Exchange, "the chief cause being the great activity in the mining market." Indeed, we are justified in going even further, and in saying that since Deep Level mining means the future of the Rand mines, the trade of the whole world is in a measure, dependent upon this aspect of the development of this, its greatest gold field. Now that the continuance of the banket beds, and of their golden contents, in depth is practically assured, the problem that remains to be solved is whether these beds can be successfully mined in depth, and what are the limits beyond which further mining is impossible or impracticable. It is obvious that there are two points of view from which this question must be studied—namely, the technical and the financial, so that we may ascertain to what extent the working of Deep Level mines may be both practically possible and economically successful. To some extent these two aspects are conterminous, and one more or less involves the other. Nevertheless, as Mr. LIONEL PHILLIPS said in his last yearly address to the Witwatersrand Chamber of Mines, one must not "confound the depth to which it is possible to mine with the depth to which it is profitable to do so," and it will probably simplify matters and give greater precision to our ideas if we keep the two sides of the question as far as possible distinct. This subject has an especial interest, inasmuch as several very able engineers have endeavoured to place a limit to the depth at which the Rand mines will prove workable, this limit being by most of them considered to be at about 3000 feet.

Let us, first of all, take the practical side of the question, and ascertain what depth engineering science at the present day would look upon as an impassable maximum, leaving the question of expense out of consideration. A Deep Level mine would have to be opened up by sinking a pair of vertical shafts, which may be a considerable distance apart, in a line parallel to the strike of the stratification. They should be cylindrical or oval in section, of considerable dimensions, and lined with brick, stone, or cement whenever the country rock requires any support. No one will doubt that such a shaft may be sunk to any reasonable depth in the solid crust of the earth—as far as the mere act of sinking is concerned; and that the various operations of drilling, blasting, securing the sides of the shaft, &c., could be carried on equally as well at a depth of 10,000 feet as they could at the surface, as far as these operations *per se* are concerned, disregarding all attendant circumstances, and confining ourselves to considerations of abstract depth alone. With the same reservations, hoisting from any similar depth presents no insuperable obstacles. That the hoisting-engine would need to be a powerful one goes without saying, and the pit-gear would have to be so proportioned as to stand the heavy strains upon it; but in these days of steel castings and forgings, the attainment of the necessary power and strength is so much of an everyday problem that no mechanical engineer would hesitate to tackle it. This is easily seen if we work out a few of the calculations for hoisting from the depth of 10,000 feet, an extreme depth, we need hardly say, that is far beyond anything that would be required on the Rand, or, indeed, beyond anything that is even contemplated in any other part of the world. The maximum speed that has as yet been employed in hoisting in shafts by means of guided cages is about 3000 feet per minute. There seems no adequate reason why this limit should not be exceeded in case of need; but, even so, the total time of hoisting from a depth of 10,000 feet would be only some three minutes. The deepest shafts in the world are those of the Viviers Reunis, near Charleroi, in Belgium, 3490 feet; and the Maria shaft at Przibram, in Bohemia, 3650 feet, and in neither of these, nor in any of the other very deep mines in the world, is there any difficulty in hoisting in a single lift. Should such difficulty occur in an extremely deep shaft, such as we are now considering, there would obviously be no absolute impossibility involved in hoisting in two or three lifts, the lower winding-engines being actuated either by compressed air, or, probably to still greater advantage, by electricity. There appears, however, no adequate reason why more than one lift should be needed. It may be noted in this connection that with a rope of uniform section there is always a limiting depth beyond which safe winding is impossible, but with a tapered rope, properly proportioned to the work it has to do, there is no such limit at all. Tapered ropes would accordingly have to be used, and the weight of the rope, cages and wagons would, of course, be counterpoised by methods so well known to mining engineers that we need not do more than refer to them. The only work to be performed by the winding-engine would, therefore, be lifting the net weight of the mineral and overcoming the friction of moving parts. Two tons would not be at all an excessive weight to lift at each hoist, and we may just note that the theoretical power required to lift 2 tons, at the rate of 3000 feet per minute, would be 400 horse-power, so that an engine capable of developing three times that amount, or 1200 horse-power (which, though large, cannot be considered an excessively formidable undertaking) would suffice for the needs of such an installation. In this connection we may perhaps depart so far from our usual custom as to allow ourselves to prophecy that aluminium, the world's latest construction material or, perhaps, some of its alloys, may quite possibly find a novel application in connection with deep mining, in which the combination of strength with lightness is the great *desideratum*.

The question of pumping from such depths as we are now considering offers some difficulties certainly, but none that cannot be overcome. Water has already been pumped in one lift of 1000 feet, although this is about three times the usual length. In any case, this problem resolves itself rather into a consideration of the proportion that the number and the length of the lifts should bear to each other. It may be pointed out that electrical pumps have already shown themselves capable of doing excellent service underground, and the transmission of power by means of electricity would seem to be one of the simplest solutions to the question as to how Deep Level pumps could be actuated, for we may take it that at these excessive depths working the entire set of pumps by an engine at the surface would present very serious difficulties indeed. We may accordingly conclude that depth

per se offers no obstacles to pumping that are likely at all to prove insuperable, seeing that the means of overcoming them appear to lie close to hand. As regards the quantity of water to be handled, we have, so far, no conclusive data upon which estimates might be based. What little we have been able to learn from the boreholes that have been sunk, and what we can infer from the deepest shafts now in operation, would lead us to suppose that the Rand formation does not carry very much water, and that there is no reason for apprehending that excessive quantities are likely to be met with in depth. This is in reality a financial rather than a purely technical question. Given sufficiently large and sufficiently powerful pumps, any quantity of water can, physically speaking, be dealt with, as long as expense is no object. In this connection it may not be out of place to quote some calculations of Mr. MARTIN, who found that in Staffordshire the quantity of water raised was ten times that of the coal raised. Although pumping can no doubt be performed much more cheaply in Staffordshire than on the Witwatersrand, there is a still greater disproportion between the value of the minerals won in the respective districts, and the margin within which profitable mining in water-bearing strata can be carried on as established by this figure would seem to allow ample latitude for anything that may be expected in the Transvaal.

Mining proper would probably be more easily and more cheaply carried on at great depths than near the surface, it being borne in mind that we are still dealing with depth in the abstract. The formation at great depth would probably be more solid; the walls, or we should rather say the floor and roof, would probably be harder and firmer; less timber would be needed, and owing to the flatter inclination of the beds more advantageous methods of laying out the mines could be adopted. Mr. E. P. RATHBONE, who recently read a paper on this subject before the South African Society of Engineers and Architects at Johannesburg, pointed out, and rightly, that in Deep Level mines the coal-miner's rather than the metal-miner's methods must be followed. This assertion of his can hardly be denied, and even if we are not quite disposed to concur in his view "that the reductions in cost effected by working on this system should far more than compensate the extra cost entailed in sinking to greater depths," we, at any rate, so far agree with him as to think that the former would contribute considerably towards counterbalancing the latter. We shall see further on that Deep Level mines will necessarily have to be worked on very large scales, and the laying out of a large mining area is favourable to economical working. Probably some modification of the long-wall method of coal mining would be adopted, which offers the advantages of needing but little timbering, and of allowing explosives to be employed to the greatest advantage. This, however, is a problem that may safely be left to those same enterprising engineers who succeeded in solving that far more difficult one of working successfully the deposits of diamondiferous "blue" at Kimberley.

(To be continued.)

NOTES AND COMMENTS.

THE complimentary dinner to Sir William Robinson was, so far as numbers and the general characteristic of its proceedings were concerned, as great a success as might have been anticipated. Western Australia has, during the last year or two, risen so high into prominence, and is now represented in London by so large and important a company organisation, that any function closely associated with the colony is sure to elicit a wide-spread and hearty support, and to go off with all possible *éclat*. Sir William conjoins in his person the qualifications which are essential to a proper performance of the duties attaching to the high office he occupies in the colony, and, at the same time, his experience is of the kind to give force and point to any of his observations which have regard to the future of Western Australia. His observations, therefore, as to the mineralogical prospects of Western Australia—hopeful and encouraging as they are—will not be put down as the over-confident anticipations of an enthusiast, more accustomed to the sanguine visions of the promoter's office than the hard realities of the gold field. There is something auspicious about the remembrance that the Government of the colony is to have as its head a man whose belief in the gold resources of the country is of the fullest kind, and founded, at the same time, upon personal contact with it.

RECONSTRUCTION in the Mysore Reefs (Kangundy) has been brought to a successful conclusion, and the enterprise is now starting upon a fresh lease of existence under advantageous circumstances. According to those who have recently visited the mine the outlook there is a highly favourable one. Mr. Forbes, one of the directors, who has just been to the property, declares himself as "highly pleased" with all he saw, and, furthermore, remarks that there has latterly been "a great deal of excellent work done for very little money." While it would appear from this that the management are aware of the futility of standing immobile when the success of the company depends upon energetic working, there is, at the same time, breathed out in the sentence just quoted a spirit of economy that will be invigorating as ozone to the anxious shareholders. Mr. Edgar Taylor's report, drawn up, presumably, in bulk upon the scene of operations, is a record of a good year's work. The underlie shaft has been sunk an additional 102 feet, making a total of 363 feet, or 38 below the 325. For the future the leading fact would seem to be the necessity of extending the underground operations both north and south in the direction of the old workings. The new air-compressing machinery and the increased use of rock-drills is expected to facilitate greatly these workings. As the mine is developed in greater depth it is expected that more valuable ground will be met with, and to that extent at least the prospects of the company may be said to be promising.

WHEAL METAL and FLOW is probably to be turned into a Limited Liability company. The shareholders have a choice of alternatives, which has strong points of resemblance to that of the far-famed Hobson. By paying half-a-crown a share the shareholders will be able to participate in the new company, which will start upon its career unencumbered with debt, and with its liability definitely limited. On the other hand, by refusing their assent to the new principle, they will lay themselves open to the same amount of liability, with the difference, however, that under this arrangement they will have in exchange no interest in the property. It seems fairly apparent that under these circumstances the only advisable course is to join the new undertaking, and this has been taken by the majority of the large shareholders, besides receiving the unanimous assent of the meeting held on Wednesday. The particular district in which the Wheal Metal and Flow is situated has yielded some highly satisfactory results, and the workings of the company whose affairs are under consideration have not yet attained a sufficient depth to enable the formation of any definite opinion as to the value of the ground. The fact that there is a well-defined lode known to exist on the property is sufficient justification for giving it a thorough trial, and probably this will be done after the new start.

INDICATIONS of the American trade revival are becoming increasingly marked, to the growing satisfaction—it need hardly be said—of business men in Great Britain, for the sympathetic movements of trade and commerce on both sides of the Atlantic are admitted laws in the industrial development of each country. The American exchanges are declaring that conspicuous advances in petroleum prices such as have taken place during the past few weeks may be accounted the forerunner of prosperity for American trade generally. One good effect of the advance will be the increase in the amount of gold brought into America in payment for the petroleum exported. Oil is paid for in gold, and is one of the most important exports of that country. America ships something like 20,000,000 barrels annually, and with the price averaging 50 cents, the aggregate receipts from this source amounts to about $10,000,000. But with oil at $2·25 to $2·50, the receipts from exports would aggregate something like $45,000,000. It is generally thought that the recent advance of oil to $2 was owing to natural conditions, and that, despite temporary relapses, the average figures will continue above the level at which they have stood for months. It is noteworthy that the first decided indications of recovery from the panic in 1873 came immediately after an advance in oil. The same fact was noted in 1884. The iron and steel trades at once feel the effect of a boom in oil, as establishments are put to work and metalliferous supplies are in demand. Tubing, tools, boilers, and engines are generally wanted at once, and a number of industries are thus benefited.

So remarkable a unanimity of expert testimony as to the value of a property as that afforded by the collection of extracts in the Chairman's speech to the shareholders of the Southern Jumpers Company, delivered on Thursday last, does not often claim the attention and strengthen the confidence of proprietors assembled in statutory meeting. The directors appear not to have been at all remiss in the duty of confirming, at the earliest possible period subsequent to the incorporation of the company, the statements put into the prospectus. In fact, the number of mining experts of eminence who have been asked to supplement the reports upon which the mine was originally floated is altogether exceptional in its magnitude, and would even to some critics of company procedure appear to be excessive. While the reports in question are by no means similar in form or matter, they unite, at least, in the essential point of favourably regarding the Southern Jumpers. Mr. Champneys has found in the property "three distinct strata of banket formation, enclosed within sandstone walls, running throughout its entire length." These reefs have by some been identified as the Chimes and Van Ryn series, which are well-known to have given excellent results elsewhere. The existence of such reefs in the property, together with facilities for economical working, abundantly explain and justify the confidence reposed by shareholders in the intrinsic value of the property, while the composition of the board itself gives a strong impetus to the conviction that the affairs of the company will be economically and ably managed.

A WRITER in the *Argonaut* lately has been trying to draw a comparison between California and South Africa, not by any means to the disadvantage of the former, and he makes use of arguments which have found expression many times in the editorial columns of *The Mining Journal*. He draws attention to the conspicuous position which South Africa at present occupies amongst the gold fields of the world, and admits that, of course, it deserves that position. What he fails, in a great degree, to understand is why other equally as promising fields should be neglected in equal ratio to the attention devoted to other districts. In California, he points out, there is no lack of food for excitement, and he pertinently asks:—"What tale that heated the blood and fired the imagination in those days, of gold, however fabulous it may have been and however exaggerated by repetition, could exceed the reality of the Utica Mine, in Calaveras county which for more than a year has yielded a monthly average of $270,000, and shows no sign of exhaustion?" It keeps 200 stamps going night and day, the adjacent properties running 10 or 20. Nor is the locality exceptional, he says, the surface of the State having barely been scratched over. "The deposits below, the storehouses of wealth that lie beneath the surface, have not yet been broken into. The hydraulic mines, with their easy development and quick returns, have retarded the working of the richer quartz properties, but that some advance has been made is proved by the increased output."

So much for the facts he puts before us respecting the wealth of the State. He then proceeds to adduce arguments why it fails to attract the attention it deserves, opinions which will be endorsed by all who read them. In the first place, the absence of excitement is explained by the fact that the production has been so widely diffused. Fifty years ago the product of the United States was practically centred in California; to-day half a dozen States press it for first place, and half a dozen others have outputs of no mean proportions. But the cause is really deeper, he confesses, and is found in the methods of working the mines. "New processes and more scientific methods have made it possible to work ores that could not formerly be mined at a profit. Capital and systematic developments are required to-day, and these are being furnished by close corporations. Mining is on a more healthy footing that ever before, and is attracting capital that it could not formerly reach. The future is bright with promise, for the next few years will see continued activity in development and wider extension of the industry. The mines are worked for the gold there is in them, and not as speculative propositions; hence there is the utmost taciturnity displayed by their owners." Perhaps, more so than any of the other opinions he has expressed, his prophecy as to the future of mining will be most likely to obtain universal endorsement.

WHILST South Africa and Western Australia are absorbing the attention of the mining world, there are other localities modestly asserting their claims to recognition, amongst them that of the Drake mining district, in New South Wales. Mr. W. H. J. Sloo, F.G.S., Chief Inspector of Mines, has just furnished a very encouraging report to the Department, one that ought to go a long way to satisfy those who read it, that this district promises to be a permanent and productive gold field. The yield of gold for the Drake division for 1894 was 6031 ounces—a considerable increase on previous years. This increase in the yield of gold is principally due to the Prospecting Vote and new arrivals, who have been assisted to come here from Sydney under the system adopted by the Mines Department. Drake has quite a permanent appearance, owing to the fact that the miners are more satisfied to settle and search for gold than was the case in former years. The principal yield obtained during the year has been from the Lady Jersey, which, through the aid of the Prospecting Vote, granted to Mr. George Rivers Jack, owner and manager, discovered rich auriferous veins in the felsite formation. With a very small crushing plant, known as Pattison's patent Elephant stamper, worked by springs, which crushes on an average 4 tons in 24 hours, the manager obtained for his company during last year 1851 ounces of gold. The company now intend to erect a large crushing plant, when they expect larger returns than hitherto. The works of this mine are extensive, and the prospects of future prosperity are good. The Adeline Mine crushed 554 tons for a yield of 570 ounces, and also crushed for the public 573 tons for a yield of 896 ounces. The All Nations and other mines are also yielding payable results. Miners can be seen in gullies fossicking for gold which for years past were either considered worked out or too poor to be worth working; nevertheless, parties are now making a living. The White Rock Mine is again at work, fifteen stampers are continually crushing, and Messrs. Rowlin and Horton feel confident that at last they have discovered the proper method of treating the White Rock ore on a payable basis, even at the present low price of silver. There is a large deposit of ore on the mine, which could be chiefly worked on the quarry system. The trouble hitherto has been the great loss of silver in the treatment, but this has now been overcome by the energy and perseverance of Mr. Manton.

ACCORDING to Warden Cusack's report for the quarter ending December last, there has been a steady increase of gold during the past six months all over the Ravenswood gold field, a fact which will be greatly welcomed by many who have a more enthusiastic opinion of the other districts of Australasia than the Western. Altogether 5332½ tons of quartz, headings, &c., were put through the several mills and works, yielding 4794 ounces 9 dwts. 20 grains, chiefly of refined gold, which, with 265 ounces 1 dwt. 14 grains of alluvial gold, purchased by local banks and country stores, make the total gold 5059 ounces 11 dwts. 10 grains for the quarter. This is an increase of 639 ounces 9 dwts. 18 grains on the September quarter, and shows a steady rising yield from June till the end of December. A large amount of this gold came from the Eight Mile diggings, on the Hillsboro' run, over the coast range, upon which portion of the field there are now about 60 miners at work. The cyanide process is at length being tried on the field, but the Warden does not speak of it in enthusiastic terms. "As we have," he says, "to a certain degree, more or less copper in our stone, I do not think the process will greatly prevail here. There is not enough of the proper quartz going through the mills now to suit the cyanide treatment, to keep these works long or constantly employed. Nor is there likely to be sufficient material to suit them in the future, for as our mines go down and away from the red stone, which means practically free gold, harsh, solid, complex mundic comes in, below the water level, and, in most instances, the cyanide process will then prove insufficient and defective. Yet there are several thousands of tons of tailings on the surface, all over the field, and these will be got through, necessarily giving us, for some time to come, a monthly increased yield of gold."

THE directors of Lindsay's Extended (East) Gold Mines (Limited) announce that the properties have now been transferred to the company, and that development work is being rapidly proceeded with and the property opened up.

THE MINING MARKET.

FRIDAY EVENING.

An enormous settlement disturbs regular business.—An increased "Bull" account and heavy continuation charges for Kaffirs.—The tone dull.—West Australians quiet.—Miscellaneous irregular.

THE tendency of the market for South African Gold and Land shares has been distinctly towards dulness during the past week. Brokers and dealers alike are tiring under the strain of protracted excitement, and are doing their best to bring about a check. The Account which was concluded to-day is generally allowed to have broken the record, if not in the actual number of shares dealt in, at least in the number of transactions. Small operators in every part of the kingdom are joining in the fray, and the transfer work involved is something appalling. The scene in the Name Room on Thursday baffles description. In a room besieged by at least three times as many men as it was intended to accommodate, a fierce fight was raging for several hours. Members fainted in the overpowering atmosphere, and the whole manner of conducting business can be compared to nothing but a savage scrummage under Rugby Union rules. This is but the climax in a state of affairs which has been gradually growing. It need not be assumed that a temporary lull in the activity of the market would in any way indicate the approach of the end. There is no disputing the fact that the Account has become unwieldy, and the difficulties experienced in carrying over large blocks of shares afforded a hint which the more sagacious were not slow in taking to heart. On Thursday as much as 4s. 6d. per share Contango was paid upon East Rands, which, taken on the making-up price of 6¼ represents a payment at the rate of 80 per cent. per annum for accommodation. Of course, this was an extreme case, but it serves as an example to suggest the existence of a good deal of weak speculation. To get this shaken out must be to the advantage of all the genuine supporters of the market, and it is in accordance with this view that many of the leading operators are now by no means averse to a little set-back.

On Saturday morning the Kaffir Section opened flat, and quotations sagged away until support came from Paris, when some substantial gains were scored in specialities, whilst the general run, although lower, closed the worst. West Australians were dull, and there was not much doing in Miscellaneous, realisations in preparation for the Settlement causing an evident weakness. The Kaffir market was firmer again on Monday on an anticipation of better things with the new Account, but Westralians and miscellaneous continued dull. The preliminary arrangement of the Account monopolised attention during Tuesday morning, but extensive buying set in during the afternoon, and the general tone was very firm at the close. West Australians were good, and there were several instances of strong advance in Miscellaneous. On Wednesday dealers began to accumulate caution on the disclosure of the heavy Account for the rise. Moreover, attention was distracted by the Contango work in the Railway and Foreign Markets, which in their turn developed an appearance of rivalling the Mining Department in the boom. Sight must not be lost of the fact that many operators have devoted their entire attention to mines during the past few months, simply because there was no active speculation in other parts of the House. With the removal of this disability must inevitably come the recession of outside speculators, who, from choice, would patronise American Rails or Home Securities. Not only will patronage be withdrawn, but a good deal of accommodation, money which has recently been available for mining shares, will be required in other channels on the broadening of speculative interest. A dull tone came over the Kaffir Section on Thursday, and though one or two special favourites went to higher values, the general disposition was downwards. The passing of names required so much attention that little was done in Westralians and Miscellaneous. To-day the concluding formalities of the Account restricted new dealings, and the tone continued dull, brokers, by general consent, preferring to discourage fresh operations for the moment. In the Street the tone is distinctly harder, and the liquidations which have been in progress during the afternoon will have a beneficial effect.

South African Mines.

The April output of gold at the Witwatersrand was announced to-day at the record figure of 186,323 ounces, which is 1378 ounces in excess of the previous best, recorded last month. In this remarkable total the chief contributor was the Robinson, which produced 14,097 ounces, as against 11,936 ounces during March. The treatment of concentrates purchased is responsible for some 2000 ounces, so that for genuine production this mine is run close by the New Primrose return of 12,085 ounces. Robinsons are ⅛ better at 9, and Primroses 1/16 up at 7⅛. This is about the only instance of improvement in the Barnato group, Buffels being unchanged at 5⅛, whilst slight declines are shown in Crœsus at 2⅝; Glencairn at 4½; Spes Bona at 3⅝; Ginsberg at 2½; May Consolidated at 3 1/16; and Kimberley Roodepoort at 4½. Langlaagte Royal has lost ⅜ at 4½ on the indifferent production for April—2195 ounces. Some attempt has been made to push Pleiades, but the quotation is 1/16 down at 1 1/16. Deep Level shares have again absorbed a good deal of attention, but prices are closing below the best. East Rand rose on Paris buying to 6¼ on Tuesday, when Continuation was arranged at a charge of 6d. to 9d. per share. When the weak Bull account was disclosed by the payment of the exorbitant charges mentioned above there was an immediate slump to 5⅞. To-day the shares were as low as 5½, but leave off practically unchanged on the week at 5⅞. Rand Mines are 1½ down at 32½. Gold Fields Deep stood at 7½ on Tuesday, but fell below 7 on the following day. They close at 6⅞ to-night, so that the change on balance is unimportant. Consolidated Deep Levels at 5½, Champ d'Or Deep at 1⅞, and Roodepoort Deep at 4¼, are all ⅛ to ⅜ down. Geldenhuis Deep is especially flat at 9, a loss of 1½. Afrikanders have been bought on the extension scheme, and mark a gain of ⅜ at 2⅝. There was quite a rush to buy Block B on Monday and Tuesday, and the price advanced to 31s., but the last price—26s. 6d.—is only 1s. 6d. up on the week. Big Golden Quarrys, a long-standing tip for the rise, have shot up 1s. to 3s. 4½d. City and Suburban, after topping 27, dipped on Thursday to 25⅜, which is about the present price. Langlaagte, after a week of dulness, rallied to 5 buyers on Thursday on shop buying. There was a big jump in Van Ryn on Tuesday on the publication of a cablegram announcing the discovery of an entirely new reef. The price shot up to 10⅞, but has since relapsed on realisations to 10⅜, a gain of a point on the week. The company is said to have £60,000 cash in hand, and holds 70,000 shares of the Van Ryn West, representing a market value of nearly half-a-million sterling. Modderfonteins have fluctuated between 17 and 15½, the price moving from the lower to the higher figure on Tuesday. The last price, 16⅜, is ⅛ down on the week. Johannesburg Gold are steady at 8s. 6d. Negotiations have been completed for the sale of claims to a new company about to be floated, on terms which will provide ample working capital for further development. There have been extensive dealings in Great De Kaap, which have advanced from 2s. 9d. to 6s. The company owns a property and mining rights over portions of Moodie's Concessions. Central De Kaaps are another recent introduction closing with a rising appearance at 3s. A satisfactory cablegram from the manager caused a spurt in Rothery Blocks, which have advanced to 1½. Coetzeestrooms are slightly easier at 10s. 9d., dealings having been on a smaller scale. The excitement in Spitzkops has also received a check, although at 1⅛ the shares are rather higher on the week. A widening interest in Nuggets has carried up the price 1s. 6d. to 5s. Luipaard's Vlei are easier at 23s., after touching 26s. 6d. on Tuesday. Jubilee and Salisbury had a spurt on Saturday on amalgamation rumours, and the improvement continued on Monday. The best of the former was 12, and of the latter 6½. To-night's prices are 11⅛ and 5½, respectively. Randfonteins have as usual attracted a good deal of attention, but close slightly easier at 43s. Sutherland Reefs dipped to 12s. 6d. on Saturday on the statement that a very bad report had been received from the mine, the expenses having exceeded the gold production by £220. The last price—14s. 6d.—shows a loss of 3s. Joe's Reef were run up from 14s. to 20s. 6d. on the report of a good strike, but the best price has not been maintained. A new factor in the Market is the dealing based upon information supplied to its subscribers by the Rand Cable Agency. To this may be attributed a spurt in East Orions on Monday. The East Orion is a reconstruction of the Black Reef Company, and cable information is to the effect that payable ore has been struck on the property. There have been dealings in New Rand, the company which took over the old Citizen property. The shares have run up from a small discount to ⅛ premium, though the last price is a shade below the best. Pigg's Peak spurted on Tuesday to 1⅜ on news of a strike on the Eagle's Nest portion of the property. Nigel rose to 8½ on Saturday, but leave off ⅛ down at 7 1/16. Pardy's Range have been steady at 11s. 3d., whilst a gain of 9d. has carried Gold Coast Developments to 8s. George and May have been heavily sold, and mark a loss of 1/16 at 1⅛. A special feature to-night is the strength of Doornkop at 16s. 6d. on Paris orders. Jumpers are 1/16 down at 5⅛. The foregoing changes represent the bulk of movements of interest, though obviously it is impossible to make the record complete. A special feature has been the strength of Consolidated Gold Fields, which closed at 9⅞, after topping 10 on the declaration of a 50 per cent. dividend. Johnny's Investments have been hard at 4⅛, though the Contango of a shilling paid on Wednesday indicates a weak speculative position. South African General Developments have improved to 8s., and are expected to go better. South African Gold Trust, which stood at 6 on Saturday morning, shot up to 7⅛ on Monday, to 8 on Tuesday, and to 8⅝ on Wednesday, at which the price closes.

In Land shares a big business has been done in Chartered, which close about 4⅜, a fall of ½. Mozambiques leave off at 34s. 9d., after touching 36s. 9d. to-day. There have been some sensational movements in Klerksdorp, the fluctuation being from 23s. on Monday to 33s. this morning. Heavy sales this afternoon brought the price back to 27s., but a fresh rally leaves them at 29s. 6d. in the Street. Potchefstrooms are ¼ down, at 1½. Lisbons are flat at 6s. 9d. Tati Concessions close at 3⅛, after

The SUBSCRIPTION LIST will OPEN THIS DAY (FRIDAY), the 10th MAY, 1895, and will be CLOSED at or before 10 a.m. on MONDAY, the 13th MAY, 1895, for TOWN and COUNTRY.

E. W. TARRY AND CO., LIMITED.

(South Africa.)

INCORPORATED UNDER THE COMPANIES ACTS, 1862 TO 1890.

CAPITAL - - - £300,000,

In 150,000 6 Per Cent. Cumulative Preference Shares of £1 each, and 150,000 Ordinary Shares of £1 each.

Messrs. PARTRIDGE and JARVIS, of 3, Copthall Buildings, E.C., are authorised to invite applications for 125,000 6 per cent. Cumulative Preference Shares, payable 5s. on Application, and 15s. on Allotment. These Shares rank before the Ordinary Shares as regards Capital as well as Dividends.

DIRECTORS.

THOMAS RUDD, Chairman, }
H. E. M. DAVIES, } Directors Consolidated Gold Fields of South Africa (Limited).

G. L. DEWHURST, Messrs. Geo. and R. Dewhurst, Manchester.

SIR FRANCIS KNOLLYS, K.C.M.G., Director African Banking Corporation (Limited).

AUGUSTUS DURANT, Messrs. A. Durant and Co., 37, Gresham Street, E.C.

LONDON AGENTS—Messrs. RUDD and Co., 8, Old Jewry, E.C.
BANKERS—NATIONAL BANK OF SCOTLAND (Limited), 37, Nicholas Lane, E.C.; Head Office in Edinburgh, and Branches in Scotland.
AFRICAN BANKING CORPORATION (Limited), 43, Threadneedle Street, E.C.
BROKERS—Messrs. MARTEN and CHRISTOPHERSON, 9, Tokenhouse Yard, E.C.
SOLICITORS—Messrs. MARKBY, STEWART, and Co.
AUDITORS—Messrs. W. B. PEAT and Co., 3, Lothbury, E.C.
SECRETARY and OFFICES—H. D. BOYLE, 8, OLD JEWRY, E.C.

PROSPECTUS.

E. W. TARRY and Co. (Limited) has been formed to acquire the business of E. W. Tarry and Co. (Limited), of Kimberley, South Africa, which for many years as a private partnership, and since 1883 as a Joint-Stock Company registered in South Africa, has carried on the business of supplying machinery and other mechanical requisites of various kinds for miners and mining companies.

The business of E. W. Tarry and Co. (Limited) is one of the oldest-established and most important of its kind in South Africa, and is carried on at Port Elizabeth, Kimberley, Bultfontein, Jaegersfontein, Johannesburg, Jeppe's Township, and the Austral Ironworks at Johannesburg; the principal branch being at Johannesburg.

The Gold Mining Industry of the Witwatersrand is largely increasing, and it is intended to open branches in Matabeland and Mashonaland, where the same industry is rapidly developing.

Those hitherto in control of the management of the business in South Africa and of the agency in London have notified their willingness to enter into the employment of the new Company.

The copies of the Balance Sheets and Profit and Loss Accounts of the Vendor Company now in the possession of the Directors of this Company (being copies supplied by the Vendor Company to Shareholders), as certified by Messrs. Lipp and Metelerkamp, the Auditors, and passed at the Annual General Meetings of the Company held at Kimberley, show the following net profits, after providing for all expenses except the interest on Loans, which have now been almost entirely extinguished:—

	£	s.	d.
For the year ending 31st August, 1892	7,022	15	8
" " 1893	15,461	17	11
" " 1894	22,497	12	7

And after allowing on 31st August, 1894, as follows:—

	£	s.	d.
Stock of Goods, Machinery, Plant and Tools, Rolling Stock, Office Furniture, Stationery, &c.	147,073	18	4
Book Debts and Bills receivable after allowing for doubtful debts	29,553	5	1
Freehold Properties	51,443	7	8
Cash	1,133	9	6
	£229,104	0	7
From which must be deducted liabilities there appearing	13,544	0	8
	£215,564	0	5

The dividend on the Preference Shares will amount to £7500, so that on the basis of last year's earnings there would remain a large balance for dividend on the Ordinary Shares, after payment of expenses in London, in addition to which there will accrue the profits to result from the extra working capital of about £46,000.

The terms upon which the Company proposes to acquire the business are as follows:—The sum to be paid to the Vendor Company is £210,000, payable as to £85,000 in cash, and £125,000 in Ordinary Shares. For this price the Company will acquire the business and undertaking of the Vendor Company as a going concern upon the footing of the said Balance Sheet of the 31st of August, 1894, from which date the Company takes over the business, with all subsequent benefits and risks, and has to provide for all the current liabilities, which according to information received from the manager of the Vendor Company, have been greatly reduced below the amount above mentioned. The Vendor Company guarantees the book debts above mentioned of the amount (£28,553 5s. 1d.) above stated as good, and will pay all the costs of formation up to allotment.

The Dividends on the Preference Shares will be paid half-yearly, on the 1st of January and the 1st of July, the payment on the 1st of July next being calculated from the date of the payment of the instalments.

It is intended to apply for a Stock Exchange quotation for the Preference Shares in due course.

A draft of the proposed Contract embodying the terms upon which it is proposed the Company shall purchase the business of the Vendor Company may be inspected at the Office of the Company, and is expressed to be made between the Vendor Company and the Liquidator thereof of the first part, the Trustees for the Vendor Company of the second part, and this company of the third part. The terms of this proposed Contract have been in substance arranged with the Vendor Company, but the necessary Powers of Attorney have not yet arrived in this country. So soon as they arrive, or (if that should prove the more expeditious course) so soon as the necessary Power of Attorney by this Company is sent out and arrives in South Africa, a Contract is to be executed by all parties. There are, necessarily, numerous Contracts entered into by the Vendor Company in the course of its business, by which this Company by the terms of the purchase is intended to be bound, and there are also certain Contracts for the placing of the Capital of this Company. Subscribers will be held as waiving any rights they may have to further particulars of these Contracts, under the 38th Section of the Joint Stock Companies' Act of 1867.

All the Directors, with the exception of Sir Francis Knollys and A. Durant, are interested either directly or indirectly as Shareholders or in the Shares in the Vendor Company.

The Memorandum and Articles of Association of the Company, the Draft Sale Contract and the copy Balance-sheets and the copy Profit and Loss Accounts of the Vendor Company for the years ending 31st August, 1892, 31st August, 1893, and 31st August, 1894, can be inspected at the offices of the Solicitors of the Company.

Applications for shares should be made on the accompanying Form and forwarded to Messrs. Partridge and Jarvis, or to the Bankers of the Company, with the amount of the deposit. If no allotment is made the deposit will be returned in full, and where the number of shares allotted is less than that applied for, the balance will be applied towards the payment due on allotment, and any excess returned to the applicant.

Prospectuses and Forms of Application for Shares can be obtained from Messrs. Partridge and Jarvis; the National Bank of Scotland (Limited), and at the Offices of the Company.

9th May, 1895.

being 4¼. A big business has been done in Henderson's which close ⅜ up, at 5. In Diamond shares De Beers are 1/16 up, at 21, and Jagers unchanged at 10½. St. Augustines have gained 4s. 6d., at 15s., and Gordons are slightly easier at 8s.

West Australians.

There has not been a great deal of business in West Australians, but the smaller shares have attracted most attention. Murchison Gold Fields are slightly harder at 7s. 6d., and Murchison Gifts have advanced to 5s., Caledonian to 4s. 6d., Idaho to 6s. 3d., South Londonderry to 7s. 9d., Sherlaw to 11s. 6d., and Zapopan to 9s. 9d. Another 10 ounce crushing at the Great Boulder has caused a rise of ⅛ to 1 1/16. Londonderry is slightly harder at 1/16. White Feathers are down 1/16 at 2 1/16. Austins have been bought, and Lady Mary marks a gain of ⅛ at 1 1/16.

Miscellaneous.

There has been a decided falling-off in the volume of new business in this section, mainly due to the interference of the Settlement. Broken Hill Proprietary have shot up to 2 1/16, in response to the Melbourne price, and British are slightly better at 8s. 6d. Elkhorns are easier at 9s. 3d. De Lamars have been sold, and mark a loss of 4s. at 24s. 6d. The New Zealand Group has shown weakness, Waihi being 1/16 down at 7, Hauraki 2s. lower at 10s., and Kapanga 3s. down at 13s. 6d. New Chums have risen to 16s. 3d., and a new venture —the Bendigo—has attracted some attention up to 8s. Another favourite of the moment is La Reine D'Or, 3s. 6d. higher on the week at 18s. 6d. The periodical gamble in Golden Feathers has been attempted, but not much has been done, and the price remains round about 15s. Charters Towers shares have received fair attention, Day Dawn Blocks and Bonnies being prominent. Charters Towers Consolidated came into the Settlement this time, being made up at 4s. The price is better to-night at 4s. 9d. Copper shares have been very strong under the lead of Rio Tinto, which is over two points better at 16 1/16 on Continental buying. Mason and Barry, in sympathy, are a point up on the week at 2⅝, whilst Namaqua marks a gain of ⅝ at 1⅝. The Wentworth group has been flat. The distinction of Priority shares has been done away with, and the quotation is 1 1/16, after sales down to 18s. Emmas have doubled in value at 2s., and interest has been revived in Loma Gold near 3s. Burma Rubys shot up to-day to 23s. Indians have been comparatively neglected. Champions are unchanged at 4 1/16, Mysore at 2 15/16, and Ooregum at 3⅛, but Nundydroogs are 1/16 down at 1⅞, and Gold Fields of Mysore 6d. easier at 26s. 6d.

British Mines.

The Cornish Share Market has been quiet during the past week, closing, however, with a firmer tendency all round in sympathy with tin. Carn Brea have not shown much life, and are called now about 1⅜, after having been done at 1¼. Dolcoaths have received a good amount of attention, and the price has hardened in view of the meeting. The shares close strong at 41¼. East Pools quiet at 5. Killifreths have not been dealt in so much as usual, and remain about 7s. 6d. There has been a good enquiry for Tincrofts, and buyers over 6, but shares are scarce. There has been a little more demand for West Frances at about 8s. This mine is now looking very well, and with a little further rise in tin would show a fair profit in working. West Kittys are firm at 5⅞, whilst Grenvilles have been enquired for, closing rather better at 10⅜.

STOCK EXCHANGE SETTLING DAYS.

Settling Days on the Stock Exchange are as follow:—
Consols, Wednesday, June 5.

STOCKS AND SHARES.
MAY.

Ticket Day.	Account Day.
Thursday, May 23	Friday, May 24

Contango Day for South African Market:—
Tuesday, May 21.

BANQUET TO MR. B. I. BARNATO.

A GRAND banquet was given on Thursday night at the Criterion Restaurant, Piccadilly, to Mr. B. I. Barnato, M.L.A., on the occasion of his departure to South Africa.

The Right Hon. the LORD MAYOR presided, and the company, which numbered about 300, included Lord Norreys, Lord Hillingdon, the Hon. Scott-Montagu, the Hon. C. W. Mills, Colonel the Hon. W. P. Talbot, the Hon. J. W. Lawrence, Sir E. Ashmead-Bartlett, Sir F. Evans, Sir Allen Young, Sir Gerald Fitzgerald, Count Charnace, Sir Stewart Simeon, Lord Marcus Beresford, Messrs. W. B. Brand, &c., &c.

After drinking the health of the Queen,

The LORD MAYOR, in proposing the toast of the evening—"The Health of Mr. Barnato"—said that he had made many friends in this country, who would gladly welcome him again on his return. It was not his intention to use the words of fulsome praise in regard to their guest, but it was only speaking with truthful sincerity when he declared that Mr. Barnato had made his strong individuality felt upon the times in which they were living. (Applause.) He did not hesitate to say that their guest that evening was one of the most important living factors in the development and continuation of the country's prosperity. It was through men of brains and pluck, like Mr. Barnato, that England had been able to find new fields of labour for the overpopulated mother country, and fresh channels for her industries and manufactures. South Africa was opening up new fields for the many unemployed, and it could not fail to exercise a great influence on the future commercial prosperity of the old country. (Applause.) The secret of so much success was not to be found entirely in their friend's own prosperity, but was largely due to the confidence he inspired by his honour and integrity. Wealth had not turned his head, and the friends of years gone by still claimed his friendship. (Cheers.) In the name of that large and representative assembly, he wished Mr. Barnato a fair and pleasant voyage, and a speedy return. (Loud cheers.)

The toast was drunk with musical honours.

Mr. BARNATO, who was received with much cheering, said that he felt somewhat overwhelmed with the flattering reception he had met with, and the kind words that had fallen from the Lord Mayor. His name had been referred to as a factor in the progress of South Africa. When he first put his foot on that continent, he was but a youngster, and it was not a land then to turn one's head. Mr. Barnato then related some amusing stories connected with his dramatic and Parliamentary experiences in South Africa. He was sorry to leave this country, where he had made so many friends. Twenty years of his life had been spent in South Africa, and he had many battles and struggles there, for South Africa, at one time, was not a land like it was at the present day. There was then little railway communication, and people had to travel up-country in carts and wagons for days together. There were not above 60 miles of railway in those days, while now there were some 3000 miles of line open. The great diamond industry, which was under the control of the De Beers Corporation, was the means of spending over £800,000 a year, and that centre had been the means of developing the vast resources of the country. Had there been no Kimberley, the Transvaal would have scarcely been known. The diamond centre in his time had produced over £70,000,000 worth of diamonds, while the consuming power had been equal to the production. As to the future of the country, no one could tell what was underneath the ground, but there were two industries—gold and diamonds—producing something like £13,000,000 a year. Some writers in the papers said that South Africa was a bubble, which might burst at any time. He, however, looked on the bright side of the picture, and had to express his confidence in the future of the country. He was an optimist, and believed in the country in which he had made his fortune. (Cheers.) It was a country which had produced over £100,000,000 worth of diamonds and gold. The average was now £13,000,000 a year, and he had no hesitation in saying that he should not be at all surprised if, within the next two years, the figure of £13,000,000 was raised to that of £20,000,000. (Applause). He made this statement from his own experience and personal knowledge. The only matter which might at all trouble him would be as to what might be the value of gold in the future. (Laughter.) The credit of the Cape was now absolutely next to that of Consols, and South Africa was undoubtedly the country of the future. Instead of his going away doing harm to the interest he represented, he believed it would have the opposite effect. He felt it to be his duty to return, to do justice to his Parliamentary duties, and when he had attended to them he proposed to visit the various mines of which he was trustee and guardian. The gold mining industries he was personally responsible for represented over £20,000,000, and in many of these concerns he had returned the shareholders all their capital. He was proud to say that he had never issued a prospectus, so that he was pleased to find that so much confidence existed in his name alone. (Cheers.)

Sir FRANCIS EVANS proposed the health of the LORD MAYOR, who replied, and the gathering shortly afterwards separated.

NEW ISSUES.

CROESUS SOUTH UNITED GOLD MINES (LIMITED).

(Hannan's Find, Coolgardie, Western Australia.)

The capital of this recently-formed company is £120,000, divided into 120,000 shares of £1, and, according to the prospectus, was formed to acquire, "develop, and work the mining blocks held under leases Nos. 69, 89, and 149, known as the 'Croesus South,' 'Brownhill North' (also known as 'Goldhill North'), and 'Britannia' leases, covering a total area of about 27 acres, and situated about 2½ miles south of Hannan's Reward, Coolgardie, Western Australia.) It appears from the reports of well-known mining experts accompanying the prospectus and of Mr. Charles B. Anderson, mine manager, and supplied by the vendor to the directors of the company, that extensive work has been carried out on the most important reefs which run through the properties, and that eight shafts have been sunk to depths varying from 6 to 60 feet, and other development work has been done, proving the continuity of the lodes, and that these leases contain several gold-bearing reefs, as shown by the reports of Chas. B. Anderson, viz.:—No. 1. The well-known 'Croesus' reef, 2 feet wide. The gold in this reef is very heavy, and has been proved to a depth of 25 feet from the surface.—No. 2. The 'Greenlode' reef, which runs through this property to the length of 30 chains. This reef is a huge formation, carrying heavy gold, and will in the near future rank as the principal reef on Hannan's.—No. 3. The reef known locally as the 'Mystery' also runs throughout the property, is 30 feet wide, and carries fine gold. No. 4. A reef 5 feet wide running parallel to the 'Greenlode' Reef. According to reports, there is a good position on the property for the construction of a large dam for the construction of water, as two watersheds unite within its boundaries. In addition, it is believed that water suitable for mining purposes can be obtained at a moderate depth, and the timber for mining and fuel is abundant, the surrounding country being thickly wooded. The directors are advised by Messrs. Bainbridge, Seymour, and Co., that in order to work the mines at a profit an average yield of only 5 dwts. of gold to the ton would be required, while the reports show that the reefs running through the properties should give a return of between 2 ounces and 5 ounces to the ton."

E. W. TARRY and CO. (LIMITED), SOUTH AFRICA.

This company, with a capital of £300,000, has been formed "to acquire the business of E. W. Tarry and Co. (Limited), of Kimberley, South Africa, which for many years as a private partnership, and since 1883 as a joint-stock company registered in South Africa, has carried on the business of supplying machinery and other mechanical requisites of various kinds for miners and mining companies." According to the prospectus, "the business of E. W. Tarry and Co. (Limited) is one of the oldest-established and most important of its kind in South Africa, and is carried on at Port Elizabeth, Kimberley, Bultfontein, Jaegersfontein, Johannesburg, Jeppe's Township, and the Austral Ironworks at Johannesburg, the principal branch being at Johannesburg. The copies of the balance-sheets and profit and loss accounts of the vendor company now in the possession of the directors of this company (being copies supplied by the vendor company to shareholders), as certified by Messrs. Lipp and Metelekamp, the auditors, and passed at the annual general meetings of the company held at Kimberley, show the following net profits after providing for all expenses except the interest on loans, which have now been almost entirely extinguished:—For the year ending 31st August, 1892, £7022 15s. 5d.; for the year ending 31st August, 1893, £15,421 17s. 11d.; for the year ending 31st August, 1894, £22,497 12s. 7d. And also show on 31st August, 1894, as follows:—Stock of goods, machinery, plant and tools, rolling stock, office furniture, stationery, &c., £147,973 18s. 4d.; book debts and bills receivable after allowing for doubtful debts, £28,553 5s. 1d.; freehold properties, £51,443 7s. 8d.; cash, £1133 9s. 6d.; equal, £229,104 0s. 7d.; from which must be deducted liabilities there appearing, £13,544 0s. 2d.; total, £215,564 0s. 5d."

IQUIQUE SILVER COMPANY (LIMITED).—An extraordinary general meeting of the above-named company was held at Winchester house, on Friday, when the subjoined resolution, which was passed at the extraordinary meeting of the company, held on the 25th of April, 1895, was confirmed as a special resolution:—"That the company be wound-up voluntarily under the provisions of the Companies Acts, 1862 to 1890, and that a liquidator be appointed for the purpose of such winding-up." The following resolution was also passed:—"That Mr. Arthur Goddard, of St. George's-house, Eastcheap, be appointed liquidator of the company for the purposes of winding-up, at a fee not exceeding 100 guineas, to include cost of offices and clerical work."

— The NINE REEFS COMPANY (LIMITED) has sold the gold obtained in March for £701 7s. 9d.

THE METAL MARKETS.

LONDON METAL MARKET.

THE METAL MARKET, LONDON, MAY 10.

Copper.

THERE has been more excitement in the copper market this week than at any time since the French syndicate, and a large business has been done at continuously rising prices, the market closing at the best. The speculation has been increased by the fact that the American producers—without binding themselves to restrict their production—have agreed to reduce to 60,000 tons their yearly exports to Europe, on condition that the European group fixes its output at slightly below the present figure. A meeting of the European group has been held, and no doubts are entertained as to their acceptance of the said condition. Without any such agreement, the United States' exports since the beginning of January have only been at the rate of 60,000 tons per annum, and would not be likely to exceed that even without an agreement. Still, the probability of a guarantee that they shall not exceed the rate named inspires much greater confidence. The rise in and buoyancy of the speculative market has not yet been followed by much activity in the demand for consumers' and manufactured copper. The trade doing in the latter is small and at prices which certainly ignore the advance of this week in raw copper. It now remains to be seen whether speculation will last long enough and keep prices up for the manufactured article to improve proportionately. The course of the speculative market for G.M.B.'s from day to day has been as follows:—On Monday the opening was dull, but the tone improved to a certain extent, £41 11s. 3d. and £41 12s. 6d. being done for three months, and £41 2s. 6d. and £41 3s. 9d. for s.c. The turnover was about 1100 tons. On Tuesday there was some vigorous buying, 1600 tons changing hands at £41 7s. 9d. to £41 12s. 6d. s.c., and £41 16s. 3d. to £42 2s. 6d. three months, Wednesday brought a further strong advance, on the report above alluded to being spread. The total transactions for the day amounted to 1750 tons, at £42 3s. 6d. s.c., and £42 5s. to £22 10s. three months. Heavy purchases were induced on Thursday by the report that the Europeans were likely to join the combination above-described, and about 4000 tons were treated at prices rapidly advancing, spot ultimately touching £43 12s. 6d. and three months £44. The market was exceedingly animated, the excitement being quite unwonted. To-day 3250 tons changed hands at up to £43 13s. 9d. and £44 10s. three months, and the market closed firm at £44 to £44 2s. 6d. s.c. and £44 10s. to £44 12s. 6d. three months.

Tin.

This article has also shared, though somewhat tardily, in the outburst of speculative activity developed in the copper market this week. Straits tin was quiet during both Monday and Tuesday at £64 17s. 6d. and £64 15s. s.c. and £65 5s. three months, and the total transactions for the two days amounted to 570 tons. On Wednesday silver rose ¼d., and tin became rather more active 325 tons three months, Straits being done at £64 17s. 6d. to £65 5s. On Thursday the article began to be affected by the advance in copper, and an active business, amounting to 550 tons, was done at up to £65 17s. 6d. s.c. and £66 10s. three months—a rise of 25s. in one day. To-day the advance continued, cash tin going up to £36 10s., and three months to £37, the business totalling 1000 tons. The close was easier, but steady at £66 5s. to £36 7s. 6d. s.c., and to £56 15s. to £66 17s. 6d. three months. Billiton tin opened at 39¼l. spot, and after touching 39¼ closed firm this morning at 39¾.

Pig Iron.

The Glasgow market opened at 43s. 6d. s.c. on Tuesday morning and fluctuated between that and 43s. 8½d. until Thursday, when it suddenly sprang to 44s. 2½d., whilst 44s. 7½d. was paid to-day. The market closed at 44s. 1¾d. s.c. and 44s. 3¾d. a month Scotch, with hematite at 44s. 5d. and Middlesbrough at 35s. 10½d.

Lead

is stiffening at the close; £10 has been done for soft foreign, and the final quotations are firm at £10 soft foreign, and £10 2s. 6d. English.

Spelter.

is also much firmer again, and the shipments of galvanised iron are on an exceptionally large scale. We close firm at £14 7s. 6d. to £14 10s. ordinaries to £14 12s. 6d. specials.

Antimony

quiet at £31.

Quicksilver

steady at £7 firsts and £6 19s. seconds.

The following are to-night's (May 10) prices of metals:—

	£ s. d.	£ s. d.
Copper.		
Tough cake and ingot	46 5 0	46 15 0
Best selected	46 15 0	47 5 0
Electrolytic Copper	48 0 0	50 0 0
Sheets and sheathing	—	53 0 0
Flat bottoms	—	56 0 0
Chill bars	—	—
Good merchantable, spot, & 3 months respectively	44 2 6	44 12 6
Copper tubes, seamless	—	0 0 7
Alloys.		
BRASS: Wire	—	0 0 5¼
,, Tubes (solid drawn)	—	0 0 5¾
,, Sheets	—	0 0 5¾
PHOSPHOR BRONZE: Alloys II.	—	73 0 0
,, ,, III. or Cog Wheel Brand	—	81 0 0
,, ,, VII.	—	83 0 0
,, ,, XI.	—	78 0 0
,, ,, Vulcan brand A1	—	72 0 0
DURO METAL	—	73 0 0
BULL'S METAL	—	65 0 0
Ferrobronze (Vivian's).		
Ingots ...per lb.	0 0 6¼	—
Ordinary sheets, plates, bolts and bars	0 0 6¾	—
Screw bolts and nuts	0 0 7¾	—
Pump rods, plain	0 0 6¾	—
,, finished	0 0 9¾	—
DELTA METAL: No. 4 (per ton)	—	—
,, Sheets and plates (per lb.)	—	—
,, Bars, round, square, flat (per lb.)	—	—
,, ,, hexagon (per lb.)	—	—
Tin.		
English, ingots, f.o.b.	70 0 0	70 10 0
,, bars	71 0 0	71 10 0
,, refined	72 0 0	72 10 0
Straits, spot and 3 months respectively	66 7 6	66 17 6
Australian spot, and three months respectively	67 2 6	67 12 6
Banca, (In Holland)	67 7 6	67 10 0
TIN PLATES: Charcoal, best quality per box	0 12 0	0 14 0
,, ,, ordinary	0 10 3	0 11 0
,, Coke, best quality	0 9 9	0 10 0
,, ,, ordinary	0 9 3	0 9 6

These prices of tinplates are f.o.b. at Swansea: at Liverpool 6d. per box more.

Iron.		
Pig, G.M.B., f.o.b., Clyde, spot	—	2 4 1½
,, Scotch pig, No. 1 Gartsherrie	—	2 11 0
,, ,, Coltness	—	2 12 6
,, ,, Clyde	—	2 8 6
,, ,, Govan	—	2 5 3
Bars, Welsh, f.o.b. Wales	—	4 17 6
Plates ,, ,,	—	5 17 6
Bars, Staffordshire, at works	—	5 0 0
Sheets ,, ,,	—	5 1 3
Plates ,, ,,	—	5 0 0
Hoops ,, ,,	—	5 5 0
Ship plates, Middlesborough	—	4 15 0
STEEL: English spring	—	10 0 0
,, ,, cast	—	42 0 0
,, Rails at works, according to section	3 10 0	4 15 0
Lead.		
Spanish or soft foreign	—	10 0 0
English pig, common	—	10 2 6
,, L.B.	—	10 10 0
,, sheet	—	11 5 0
,, bar lead	—	11 5 0
,, pipe	—	11 15 0
,, red	—	12 5 0
,, white	—	16 5 0
,, patent shot	—	14 10 0
Spelter.		
Silesian ordinary brands	—	14 7 6
,, special brands	—	14 10 0
English Swansea	—	15 0 0
Sheet Zinc	17 12 6	18 0 0
Antimony.		
Antimony	—	31 0 0
Quicksilver.		
Flasks, 75 lbs. warrants	6 19 0	7 0 0
Manganese.	per unit.	
Ore, c.i.f., U.K. ports		
1st quality, 50 per cent. and upwards	0 0 10	0 0 10½
2nd ,, 47 per cent. to 50 per cent.	0 0 9	0 0 10
3rd ,, 40 ,, 47 per cent.	0 0 7½	0 0 9
Aluminium.		Per lb.
98–99½ per cent. (guaranteed 98 per cent. min.) in ingots (1 cwt. lots)		0 1 7
do do (1 ton lots)		0 1 6
Nickel.		
98–99 per cent. guarantee	0 1 3	0 1 4

— The directors of the COROMANDEL GOLD have ordered a battery of 20 heads of stamps with engine of sufficient power to drive 40 stamps.

THE INSTITUTION OF MINING AND METALLURGY.—The seventh ordinary meeting of the fourth session of this institution will be held next Wednesday in the lecture theatre of the Geological Museum, Jermyn-street, S.W., at eight o'clock, when a paper will be read on "Cyanide Practice," by Mr. Alfred James (member).

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay*, Antimony; *A*, Arsenic; *Bl*, Blende; *Bx*, Borax; *C*, Copper; *D*, Diamond; *G*, Gold; *I*, Iron; *L*, Lead; *M*, Mundic; *N*, Nitrates; *P*, Phosphates; *Q*, Quicksilver; *R*, Ruby; *S*, Silver; *S-l*, Silver-lead; *Sul*, Sulphur; *T*, Tin; and *Z*, Zinc. * in the "Amount of Share" column of British Mines signifies that the mine is conducted on "Cost Book" principles; ‡ in the "Head Office" column of African Mines signifies that the address given is not that of the head office, but of a sub, or transfer office; and †, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

** The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that, while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

BRITISH MINES.

Name.	Closing Price, May 10, 1895	Closing Price, May 3, 1895.	Am't. of Share	Latest Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
			£ s.		£ s. d.			
Blue Hills ..... *CT*	5/ 7/6	5/ 7/6	*	2/- May,'81	5 19 5	5,353	Cornwall	Camborne.
Botallack ... ... *T*	—	—	*	—	51 4 6	1,880	Cornwall	St. Just.
Carn Brea .... *T*	1¼ 1⅛	1¼ 1⅛	*	2/6 Dec.,'93	22 8 5	6,000	Cornwall	Carn Brea.
Cook's Kitchen .. *T*	5/- 10/-	5/ 10/-	*	—	35 15 10	4,900	Cornwall	Camborne.
Devon Gawton *CA*	par ¼ pm.	par ¼pm.	1 0	—	0 12 6	25,000	Tavistock	8, Finsbury circus.
Devon Gt Cons. *CA*	20/ 25/	20/ 25/	5 0	3/- Nov. '94	2 0 0	10,240	Devon ...	8, Finsbury circus.
Dolcoath .... *T*	41 41¼	39 41	*	12/6 Apr.'94	9 12 6	4,700	Cornwall	Camborne.
Drakewalls *CTM*	—	—	0 5	—	0 2 0	61,856	Cornwall	Dashwood House.
East Halkyn...... ...	20/- 25/-	20/ 25/	1 0	—	0 12 6	12,000	Flintshire	67, Lord St., Liverpl.
East Pool ...... *AT*	4⅞ 5⅛	4⅛ 5	*	1/6 Sept,'94	0 9 9	6,400	Cornwall	Illogan.
Gawton .... *CA*	—	—	2 10	—	2 7 0	12,000	Devon ..	20, Great St. Helens.
Great Laxey...... *L*	⅛ 1⅛	⅛ 1⅛	4 0	5/- Apr.,'92	4 0 0	15,000	I. of Man	Douglas, Isle of Man.
Green Hurth ... *L*	1/6	1/6	1 0	-/6 June '89	0 19 0	32,000	Cmberlnd	Newcastle.
Halkyn ... . *L*	9 10	9 10	1 0	—	1 0 0	10,000	Flintshire	Chester.
Do. Dis. Mn. Drain	8½ 10½	8½ 10½	10 0	4/- Mar. '95	10 0 0	10,000	Flintshire	CornEx.Cmb.Chestr.
	—	—	1 0	6 p c Aug. 94	1 0 0	3,000	Flintshire	67, Lord St., Liverp'.
Isle of Man ...... *L*	3⅞ 4⅜	3⅞ 4⅜	5 0	1/6 Dec. 94	5 0 0	11,000	I. of Man	Chester.
Killifreth .... *T*	5/ 10/-	5/ 10/-	*	1/6 Nov.,'94	5 11 6	6,000	Cornwall	Truro.
Leadhills .... *L*	15/- 20/-	15/- 20/	6 0	3/- Sep.'92	6 0 0	20,000	Lanarksh.	30, Finsbury-circus.
Llanarmon	par	par	1 0	—	1 0 0	31,990	Denbigh	8. Werburgh Chmbrs
Llanarmon	par	par	1 0	—	0 15 0	3,790	Flintshire	Chester.
Levant .... *CT*	4¼ 5	4¼ 5	*	4/- Nov.,'94	11 9 6	2,500	Cornwall	Penzance.
Lovell .... *T*	—	—	*	1/3 Nov.,'91	1 16 7	7,165	Wendron	3, Gt. Queen-st.,S.W.
Minera............... *L*	—	—	5 0	5/6 Mar. '90	5 0 0	8,000	Denbghsh	Minera, N. Wales.
Nenthd&Tndle. *LZ*	3/6	3/6	1 0	6% Feb.,'91	0 18 0	48,8?5	Nthumbld	Newcastle-on-Tyne
NewCooksKitn. *TC*	—	—	*	—	10 18 3	4,900	Cornwall	Camborne.
New Minera	—	—	1 0	1/- Oct.,'92	1 0 0	30,000	N. Wales...	6,Queen-street-place.
North Hendre	—	—	2 10	8 p c year 81	2 10 0	11,854	Flintshire	11, Nwgt. st., Chstr.
Paro .... *LZ*	—	—	1 0	—	1 0 0	5,000	Llanrwst...	Billiter sq. buildings
Phœnix United *TC*	1/6 2/-	1/6 2/	*	1/- Mar. '90	7 4 6	10,666	Cornwall	Liskeard.
Polberro .... *T*	15/ 20/	15/ 20/	*	—	3 7 9	18,000	Cornwall	37, Walbrook.
Rhosemor .... *L*	par	par	1 0	10 p c Sept. 9'	1 0 0	1,030	Flintshire	CornEx.Cmb.Chestr.
Rhosemor .... *L*	par	par	1 0	—	0 19 0	18,000	Flintshire	CornEx.Cmb.Chestr.
So. Condurrow *TC*	2/6 7/6	2/6 7/6	*	3/6 Apr. '93	7 17 6	6,123	Cornwall	20, Great St. Helens
South Crofty *TA*	7/6 12/6	7/6 12/6	*	—	17 7 6	6,120	Cornwall	Pool, Cornwall.
S. Frances Untd. *T*	10/- 11/-	2/6 7/6	*	—	2 7 6	6,000	Cornwall	Redruth.
South Halkyn	par	par	1 0	—	1 0 0	10,000	Flintshire	8, Werburgh Chmbrs
South Halkyn	par	par	1 0	—	0 7 0	30,001	Flintshire	8, Werburgh Chmbrs
Talacre	par	par	1 0	—	0 15 0	20,000	Flintshire	81, Forgate st., Chstr
Tincroft .... *T*	6 6¼	5 5½	*	2/- Aug. '94	15 7 6	6,000	Cornwall	Carn Brea.
Weardale .... *L*	8/9	8/9	4 0	1/3 Oct. '90	1 10 0	60,000	Durham...	3, Lombard-court.
West Frances ... *T*	8/6 9/6	5/ 1?/	—	2/6 May,'89	17 1 7	6,144	Cornwall	Camborne.
West Kitty .... *T*	5⅛ 6	5⅛ 6	*	2/- Dec,'94	1 2 0	6,000	Cornwall	37, Walbrook.
Wheal Agar . . *TA*	2/6 7/6	2/6 7/6	*	2/6 Aug.'88	23 15 2	6,000	Cornwall	Redruth.
Wheal Basset ... *TC*	13/ 15/	5/ 10/-	*	10/- Apr.'88	12 3 0	6,144	Cornwall	Redruth.
Wheal Friendly.. *T*	-/6 1/-	-/6 1/-	*	—	0 12 9	10,000	Cornwall	110, Cannon-st., E.C.
Wheal Grenville *T*	10⅛ 10⅜	10 10⅛	*	2/6 Nov. '94	18 2 0	6,000	Cornwall	7, Union-court, E.C.
Wheal Kitty...... *T*	2/ 4/	2/- 4/-	*	3/- Mar. '88	4 5 6	8,590	Cornwall	Truro.
Wheal Metal &F. *T*	1/- 1/6	1/- 1/6	*	—	0 13 9	10,784	Cornwall	14, Broad-street.

AUSTRALIAN AND NEW ZEALAND MINES.

Name.	Closing Price, May 10, 1895	Closing Price, May 3, 1895.	Am't. of Share	Latest Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Abbotts .... *G*	13/9 16/6	13/9 16/9	1 0	—	0 17 6	67,000	M'rchison	17, Old Broad st.
Achilles Gld Fld.	4/6 5/-	4/3 4/9	2/6	—	0 2 6	642,456	N.Zealand	Poultry.
Aladdins Lamp *G*	⅞ 1	18/9 21/3	1 0	1/- May '95	1 0 0	100,000	N S.Wales	4-6, Throg. Avenue.
Assoc. Gold Mines	16/3 18/9	16/3 18/9	1 0	—	1 0 0	375,000	Coolgardie	20, Bucklersbury
Austin............... *G*	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	50,000	Murchison	23, College hill, EC
Australasian ...... *G*	4/9 5/3	4/6 5/-	1 0	-/6 Mar.,'92	1 0 0	210,000	Queenslnd	6, Queen-st. place
Australian .... *C*	—	—	20 0	1/6 July '94	7 7 6	18,315	S. Austral.	15, Old Jewry Chbrs
Aus. Bro. Hill Con.	4/3 4/9	4/6 5/	1 0	1/- June,'91	1 0 0	537,138	N.S.Wales	Dashwood House.
Baker's Creek ... *G*	17/6 22/6	17/6 22/6xd	1 0	1/- May '95	0 17 6	160,000	N.S.Wales	Hillgrove, N.S.Wales
Bayley's Reward *G*	9/6 10/-	9/6 10/	1 0	-/4 Dec. 94	1 0 0	480,000	Coolgardie	F'sb'y. H. Bl'mf'ld St.
Big Blow .... *G*	⅜ ⅞	15/ 16/	1 0	—	0 15 0	100,000	Coolgardie	Blomfield Ho., E.C.
Blackett's Claim *G*	⅛ 5/16	8/9 11/3	1 0	—	1 0 0	60,000	Coolgardie	Winchester House
Blue Spur & G. G.	-/6 1/-	-/6 1/	1 0	—	1 0 0	80,098	N.Zealand	6, Gt. St. Helens'
Bonnie Dundee *G*	17/- 18/-	17/ 18/	1 0	—	0 18 6	120,000	Queenslnd	3-5, Gracechurch-st
Brilliant............ *G*	⅞ 1	19/ 20/ xd	2 0	-/4 Mar. '95	2 0 0	250,000	Queenslnd	Charters Towers.
Brilliant Block... *G*	1 13/16 2 1/16	1⅞ 2	2 0	-/6 Apr. 95	2 0 0	250,000	Queenslnd	3, Gracechurch-st.
Brilliant, St. Geo.	1⅜ 1½	1⅜ 1½	0 10	6d. Apr. '95	0 6 3	72,000	Queenslnd	Charters Towers.
Brit. Brok. Hill *S*	—	—	1 0	—	1 0 0	—	N.S.Wales	Dashwood Ho., E.C.
Brit. Broken Hill	—	—	0 8	—	0 8 0	—	N.S.Wales	Dashwood Ho., E.C.
Broken Hill Prop.	2¼ 2⅜	1 15/16 2 1/16xd	0 8	1/- Apr. '95	0 8 0	960,000	N.S.Wales	Dashwood Ho., E.C.
Cashman Bril.... *G*	⅛ ¼	⅛ ¼	1 0	—	1 0 0	60,000	Coolgardie	Winchester House.
Carrington... ..... *G*	9/6 10/6	10/- 11/-	12/6	—	0 12 6	100,007	Queenslnd	9, Tokenhouse Yard.
Con. G. M. of W. A.	13/16 11/16	par ⅛ pm	1 0	—	0 12 6	90,000	W.Austral	14, Hill st., Edinboro'
Coolgardie......... *G*	-/9 1/-	-/6 /9	0 2	—	0 0 6	40,000	Coolgardie	Winchester House.
Coolgardie(Shriws)	11/16 ¾	15/- 16/-	1 0	—	0 6 0	—	Coolgardie	Broad Street Avenue.
Craven's Cal. ... *G*	3/6 4/6	3/6 4/6	0 6	-/3 June 94	0 4 6	100,000	Queenslnd	30-1, S. Swithin's-la.
Crown Bayley's.. *G*	1/16 ⅛ pm	1/16 ⅛ pm	1 0	—	0 10 0	80,000	Coolgardie	Bishopsgate Ho. E.C.
Cumbrind (New) *G*	3/9 4/3	3/6 4/	1 0	2/6 Dec.'87	0 19 0	184,890	Queenslnd	Blomfield House E.C
DayDawn B.&W. *G*	11/9 12/3	12/ 13/-	1 0	-/6 Mar. 93	1 0 0	498,400	Queenslnd	3-5, Gracechurch-st.
Day Dawn P. C. *G*	6/- 6/6	5/- 5/6	1 0	-/6 Apr.'92	1 0 0	490,000	Queenslnd	Winchester Ho.,E.C
Eaglehawk......... *G*	1/6 2/-	1/6 2/	1 0	—	0 19 9	120,000	Victoria...	31, Lombard-street.
Empress Coolge. *G*	⅛ ⅛ dis.	⅛ ⅛ pm	1 0	—	0 10 0	90,000	Coolgardie	2, Tokenhouse bldgs
Eng. & Aus. Cop. *Cu*	1/16	1/16	2 0	2% 1883	1 17 6	70,000	S. Austral.	136, Palmerston-blds
Frederick the Gt *G*	—	—	1 0	—	1 0 0	125,000	Victoria...	St. George's House.
Glenrock .... *G*	1/6 2/-	1/6 2/	1 0	—	1 0 0	225,000	N.Zealand	3-5, Queen-st. E.C.
Golconda .... *G*	23/9 26/3	23/9 26/3	1 0	—	1 0 0	68,086	Murchison	Winchester House
Gold Estates.........	1⅛ 1⅛	1 1/16 1 1/16	1 0	—	0 10 0	80,000	W. Austral	42, Gresham House.
Great Boulder ... *G*	1¼ 1⅜	23/9 25/	1 0	—	1 0 0	119,380	Yilgarn ..	3. Gracechurch st.
Great Coolgardie...	5/16 7/16	5/16 7/16	1 0	—	0 15 0	85,000	Coolgardie	3. Budge Row.
Great Fingall Rfs.	2½ 2¾	2½ 2¾	1 0	—	1 0 0	175,000	Kurnalpi	Broad Street House.
Golden Gate...... *G*	2/3 2/9	2/6 3/6	0 10	—	0 10 0	150,000	Queenslnd	9, Tokenhouse Yard.
Hampton Lands...	5 5¼	4½ 4⅞	1 0	10/- Nov. '94	1 0 0	64,075	Coolgardie	1, Whittington Avue
Hampton Plains ..	3⅛ 3⅜	2 3/16 2 5/16	1 0	—	0 4 0	350,000	Coolgardie	29, S. Swithin's lane
HamptonPlainsEx	6/6 7/-	5/6 6/6	1 0	—	0 18 0	180,000		Suffolk House, E.C
Hannan's BrwnHil	1¼ 1⅜	1⅜ 1½	1 0	—	1 0 0	65,000	Coolgardie	Broad Street House
Hauraki............ *G*	9/6 10/6	11/6 12/6	2/6	—	0 0 6	250,000	Coromndl.	Dashwood Ho.; E.C.
Kaboonga .... *G*	4/ 4/6	4/ 4/6	0 10	—	0 9 9	600,000	Queenslnd	70-71, Bishopsgate st.
Kangarilla .... *S*	6/ 7/	7/ 8/	1 0	—	1 0 0	83,275	So. Austral	68, Coleman street,
Kapanga............ *G*	13/6 14/6	16/ 17/	1 0	-/6 Jan. '91	0 19 6	250,000	N.Zealand	9, New Broad-street.
Kilkivan............ *G*	—	—	1 0	—	1 0 0	81,392	Queenslnd	4, Coleman-street.
Kinsella .... *G*	1⅛ 1¼	1⅛ 1¼	1 0	—	1 0 0	80,000	Murchison	33, Broad-st. Avenue
Kurnalpi............ *G*	11/ 12/	11/ 12/	1 0	—	—	—	Coolgardie	Throgmorton House
Lady Loch......	⅛ ⅜	½ ¾	1 0	—	0 10 0	70,000	Coolgardie	9, Tokenhouse Yard.
Lady Mary Amalg.	1 7/16 1 9/16	1⅜ 1½	1 0	—	1 0 0	46,000	Murchison	Blomfield House.
Lindsay	3/16 1/16 dis.	3/16 1/16 dis	1 0	—	0 10 0	65,000	Coolgardie	Copthall House
Londonderry..... *G*	⅜ ¾	11/3 13/9	1 0	—	1 0 0	467,000	Coolgardie	3, Gracechurch-st.
L.& W. Aust. Expl.	2⅝ 2¾	2⅝ 2¾	1 0	20 p.c. Dec.'94	1 0 0	100,000	W. Austral	Broad Street Ho.
Mainland Cons. *G*	⅛ ⅛pm.	13/16 5/16pm	1 0	—	0 15 0	150,000	Murchison	14, Old Broad Street
Mawson's Rewrd. *G*	15/16 1 1/16	20/ 22/6	1 0	—	0 10 0	60,000	W. Austral	28 & 29, S Swithin's ln
Mills' Day Dawn *G*	1 5/16 1 7/16	1⅜ 1½	1 0	-/6 Apr. '95	0 15 6	300,000	Queenslnd	3, Gracechurch-st.
Mosman .... *G*	7/- 8/-	8/3 8/9	1 0	—	1 0 0	58,235	N.S Wales	16, St. Helen's-place.
Mt. Leyshon ...... *G*	—	—	1 0	-/6 Dec. '90	1 0 0	157,989	Queenslnd	7, Draper's-gardens.
Mount Morgan *G*	2⅝ 2¾	2⅝ 2¾xd	1 0	-/6 May, 95	0 17 6	1,600,000	Queenslnd	50, Lime-street.
Mount Zeehan *SL*	-/6 1/-	-/6 1/	1 0	—	1 0 0	193,257	Tasmania	Mansion Ho. Cham.
N. Australian G. F.	10/- 20/-	10/ 20/	1 0	—	1 0 0	20,000		7, Union Court.
New Queen ...... *G*	7/9 8/3	8/- 8/6	1 0	-/6 Mar.,'95	0 19 6	158,915	Queenslnd	30, St. Swithin's-la.
Nicol Mines	1 1¼	1 1¼	1 0	—	1 0 0	15,000	Pilbarra ...	151, Cannon St., E.C.
North Coolgardie..	4/ 4/6	3/- 3/6	0 5	—	0 4 0	85,000	Coolgardie	228, Winchester Ho.
N. Q'ld. M. Agency	1⅞ 2	1 15/16 2 1/16	1 0	2/6 Jan. '95	1 0 0	90,000	Queenslnd	10 New Broad Street
Queen's Bthdy Un.	12/6 13/6	12/6 13/6	1 0	—	0 12 6	75,000	Victoria...	7-8, Gt. Wnchster St.
Sam's With. of Nat.	4/6 5/-	3/6 4/6	1 0	—	0 18 0	200,000	W. Austral	33, Old Broad Street.
Scottish Australian	⅝ ⅞	⅝ ⅞	1 0	-/3 May,'95	1 0 0	200,000	N.S Wales	Winchester Ho. E.C.
Victoria Associatn.	—	—	1 0	-/6 May,'95	1 0 0	144,000	Chr. Tow.	6, Crosby-square
Victory............ *G*	6/6 7/6	6/6 7/6	0 5	-/3 Mar.,'94	0 5 0	200,000	Queenslnd	32, Gresham-st., E.C.
Waihi.............. *G*	6⅞ 7⅛	7⅜ 7⅝	1 0	2/- Jan,'95	1 0 0	150,000	N.Zealand	11, Abchurch-ln. E.C.
Waratah............ *G*	9/6 10/6	9/- 10/	1 0	—	0 10 0	6,000	Crydn,NZ	43, Threadneedle st.
Wentworth Exten.	5/- 6/-	5/- 6/-	0 5	—	0 5 0	178,828	N.S Wales	19, S. Swithin's Lane
Wentworth Ord. *G*	1 5/16 1 7/16	1 5/16 1 7/16	1 0	—	1 0 0	350,000	N.S Wales	4-6, Throgmort. Av.
Went. Priority... *G*	—	1⅛ 1¼	1 0	5/- May '95	1 0 0	150,000	N.S Wales	4 6, Throgmort. Av.
W. Argentine .... *G*	1/3 1/9	1/3 1/9	1 0	—	0 19 6	150,000	N.Zealand	3-5, Queen-street.
W. Aust. G Conces	1⅜ 1½	1 11/16 1 13/16	1 0	20% May '95	1 0 0	17,600	W.Austral	33, Old Broad st., EC
W. Aus. Exploring	⅜ ⅜pm.	5/16 11/16pm	1 0	—	0 15 0	200,000	W Austral	54, Old Broad st., EC
W. Australian G.F.	3 11/16 3 13/16	3 11/16 3 13/16	1 0	2/6 Dec.,'94	1 0 0	65,000	Coolgardie	28-29, S. Swithin's-ln.
W. Aust. Mining	5/9 6/3	5/6 6/6	1 0	—	1 0 0	104,297	W. Austral	257, Winchester Ho.
W. Mallina .. ... *G*	2/6 3/-	2/9 3/3	0 5	—	0 5 0	80,000	Pilbarra ...	Winchester House.
White Feather ...	2 2⅛	2⅛ 2⅜	1 0	—	1 0 0	60,000	Coolgardie	28 & 29, S. Swithin's ln
Zaropan............ *G*	9/6 10/6	8/6 9/6	1 0	—	1 0 0	[illegible]	N W Austra	70, Bishopsgate-street
Zeehan Montana *S*	—	—	1 0	6d. Mar. 95	1 0 0	50,000	Tasmania	11, Queen Victoria st
Zeehan Montana *S*	—	—	1 0	6d Aug. 94	0 5 0	14,000	Tasmania	11, Queen Victoria st

EUROPEAN MINES.

Name.	Closing Price, May 10, 1895	Closing Price, May 3, 1895.	Am't. of Share	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
			£ s.		£ s. d.			
Alamillos .... *L*	10/- 15/-	10/-15/ xd	2 0	-/6 April '95	2 0 0	35,000	Spain	6, Queen-street-place
Avala .. .. *Q*	0 ⅛	0 ⅛	1 0	1/- May '93	1 0 0	51,584	Servia	4, Tokenho. Bldgs.
Consett Ore	5½	5⅛	1 0	5/- July 94	1 0 0	55,200	Spain	19, Grey-st., N'castle
English Cr. Spelter	⅜ ⅝	⅜ ⅝	1 0	2½% Aug.'94	1 0 0	84,000	Lombardy	9, Queen-street-place
Fortuna ... . *L*	17/6 22/6	17/6 22/6	2 0	1/- April '95	2 0 0	25,000	Spain	6, Queen-street-place
Libiola.............. *C*	3⅛ 3⅜	3 3¼	5 0	4/6 Apr. 95	5 0 0	50,400	Italy	Dashwood Ho., E.C.
Linares .... *L*	3⅜ 4⅛	3⅞ 4⅛	3 0	4/6 April '95	3 0 0	14,998	Spain	6, Queen-street-place
Mason & Barry... *C*	2 1/16 2 5/16	1⅛ 1¼	5 0	2/- May. '94	5 0 0	185,172	Portugal	87, Cannon-street.
Oscar .... *G*	—	—	5 0	—	0 4 6	117,240	Norway ..	8A, Austin Friars.
Pestarena .... *G*	7/- 8/-	8/ 9/	3 0	—	3 0 0	67,?09	Italy	6-7, Queen-street-pl.
Pontgibaud ...... *SL*	—	—	20 0	11/6 Dec '94	20 0 0	14,000	Coueron...	6 7, Queen-street pl.
Rio Tinto .... *C*	15 13/16 16 1/16	14 11/16 14 13/16	10 0	4/- May,'95	10 0 0	325,000	Spain	30, St. Swithin's-lane
Do. (Mort. Bonds)	104 106	104 106	100 0	5% Apr,'95	100 0 0	£1692,740	Spain	30, St. Swithin's-lane
Do. (2nd do.)	102 104	102 104	100 0	5% Apr. '95	100 0 0	£1024,860	Spain	30, St. Swithin's-lane
Do. (3rd do.)	101 103	101 103	100 0	5 p.c. Apr. 95	100 0 0	£5?7,080	Spain	30, St. Swithin's lane
Ripanji .... *SQ*	11/- 12/-	11/- 12/	1 0	—	0 19 0	95,000	Servia......	120, Bishopsgt-st.,W.
Tharsis...... ... *C Sul*	4⅝ 4⅞	4⅝ 4⅝	2 0	4/- May,'95	2 0 0	625,000	Spain	Glasgow.
West Prus Pre. pref	—	—	10 0	8% Mar. 95	10 0 0	366	Germany	Walbrook Ho., E.C.
West Prussian Pre.	—	—	10 0	8% Mar. '95	10 0 0	5,450	Germany	Walbrook Ho., E.C.
West Prussian Or.	—	—	10 0	8% Mar. '95	10 0 0	14,050	Germany	Walbrook Ho., E.C.
Wohlfahrt .... *L*	—	—	1 0	3% Dec. '94	1 0 0	99,634	Prussia ...	17, Victoria-st., S.W.
Wohlfahrt	—	—	1 0	3% Dec. '94	0 10 0	9,090	Prussia ...	17, Victoria-st., S.W.

INDIAN AND ASIATIC MINES.

Name.	Closing Price, May 10, 1895	Closing Price, May 3, 1895.	Am't. of Share	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Asia Minor Pref. *Sl.*	—	—	0 10	—	0 10 0	47,430	Asia Minr	2, Metal Ex. Bldgs.
Do. Ord. ...	—	—	0 10	—	0 10 0	52,838	Asia Minr	2, Metal Ex. Bldgs.
Balaghat Mysore *G*	3/6 4/6	4/ 4/6	1 0	—	0 19 0	159,945	India	6-7, Queen-street-pl.
Burma Ruby...... *R*	22/6 23/6	19/ 21/	1 0	—	0 18 0	298,551	Burmah...	Suffolk House, E.C.
ChampionReef... *G*	4⅜ 4½	4 7/16 4 9/16	1 0	4/- Apr. '95	1 0 0	200,000	India	6-7, Queen-street-pl.
Colar Central ... *G*	1/7½ 2/1½	1/6 2/	1 0	—	1 0 0	200,000	India	Dashwood Ho., E.C.
Coromandel...... *G*	11/16 13/16	11/3 13/9	1 0	—	0 15 0	95,000	India	6-7, Queen-st.-place.
GoldFldsMysore *G*	26/6 27/6	27/6 28/6	1 0	1/- July '92	1 0 0	275,000	India	6-7, Queen-street pl.
Gold Flds Siam *G*	—	—	1 0	—	1 0 0	150,000	Siam	19, St. Swithin's-lane.
Hyderabad Dec. ..	8¾ 9	8⅝ 8⅞	10 0	—	10 0 0	115,000	Deccan ...	16, St. Helen's-place.
Kempinkote GdFd	2/9 3/3	2/9 3/3	0 5	—	0 3 6	750,000	India	6-7, Queen-st.-place.
Mysore .... *G*	2⅞ 3	2 15/16 3 1/16	1 0	2/- Feb,'95	1 0 0	248,354	India	6-7 Queen-street pl.
My. Harnhalli ... *G*	4/- 4/6	3/9 4/3	1 0	—	0 18 0	100,007	India	2, East India Avenue
Mysore Reefs ... *G*	7/- 8/-	6/6 7/6	1 0	—	1 0 0	160,000	India	6-7, Queen-street-pl.
Mysore West(N) *G*	1 1⅛	22/ 23/	1 0	—	0 19 0	127,408	India	Dashwood Ho., E.C.
Mysore Wynaad *G*	1 1⅛	22/ 23/	1 0	—	0 19 0	125,000	India	Dashwood Ho., E.C.
Nine Reefs ...... *G*	3/6 4/6	3/6 4/6	0 10	—	0 10 0	250,000	India	6-7, Queen-street-pl.
Nundydroog...... *G*	1 13/16 1 15/16	2 2⅛	1 0	1/6 Mar. '95	1 0 0	200,000	India	6-7, Queen-street-pl.
Ooregum (Df.O.) *G*	3⅛ 3¼	3⅛ 3¼	1 0	2/6 Apr. '95	1 0 0	145,000	India	6-7, Queen-street-pl.
Do. (10% Pref.).	3 15/16 4 1/16	3 15/16 4 1/16	1 0	2/6 Apr. 95	1 0 0	107,011	India	6-7, Queen-street-pl.
Do. (10% Pref.).	3⅜ 3⅝	3⅜ 3⅝xd	1 0	2/6 Apr,'95	0 5 0	12,989	India	6-7, Queen-street-pl.
Pahang Kabang *T*	⅛ ⅜	⅛ ⅜	1 0	—	1 0 0	200,000	Malay Pn.	4a, Jeffrey's sq., E.C.
S. Aust. Petroleum	1/6 2/-	1/6 2/	1 0	—	0 18 6	108,000	Burmah...	12, Pancras Ln., E.C.
Straits Developmt.	2 15/16 3 1/16	2 9/16 2 11/16	1 0	—	0 19 0	184,292	Pahang ...	15, Copthall Avenue.
Yerrakonda ...... *G*	2/9 3/3	2/6 3/-	0 4	—	0 2 6	187,491	Mysore ...	6-7, Queen-street-pl.

NORTH AMERICAN MINES.

Name.	Closing Price, May 10, 1895	Closing Price, May 3, 1895.	Am't. of Share	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Alaska Mexican... *G*	1⅛ 1⅜	13/16 15/16	$5	7 1-5d. Apr. 95	$5	160,000	Alaska......	30, St. Swithin's-ln
Alaska Treadwell *G*	3⅛ 3⅜	3⅛ 3⅜xd	$25	1/6 Jan.,'95	$25	200,000	Alaska... ..	30, St. Swithin's-ln.
Almada and T... *S*	-/9 1/-	-/9 1/	2/6	—	0 2 6	351,008	Mexico ..	6, Queen-street-place
American Belle... *S*	1/9 2/3	2/ 2/6	1 0	-/6 Mar.'91	1 0 0	398,890	Colorado	25A. Old Broad-street
Anglo Mexican ... *S*	—	—	5 0	3/- Jan.'90	5 0 0	74,850	Mexico ...	23, College Hill.
Arizona (Pref.) *Cu*	28/9 30/-	20/6 20/9	4 0	—	4 0 0	158,920	Arizona ...	74, Geo.-st, Edinbor
Do. 6½ A Deben.	96	94	100 0	—	100 0 0	£135,300	Arizona ...	74, Geo.-st., Edinbor
Do. 7% B Deben.	81½	81½	100 0	—	100 0 0	£181,300	Arizona ...	74, Geo. st. Edinbor
Big Creek ..... *Ay.*	2/6 3/6	2/6 3/6	1 0	1/- Dec.'91	1 0 0	50,000	Nevada ...	11, Queen Victoria-st.
California .... *G*	—	—	0 10	-/6 May 90	0 10 0	621,808	Colorado	St. George's Ho. E.C.
Colorado Boy...... *S*	—	—	1 0	—	1 0 0	112,492	Colorado	11, Poultry, E.C.
Cortez .... *S*	—	—	1 0	3% Feb.'93	1 0 0	300,000	Nevada ..	Suffolk House, E.C.
Decatur............ *Sl.*	—	—	1 0	—	1 0 0	32,200	Colorado	35, Queen Victoria-st.
Do........... (Pref.)	—	—	1 0	—	1 0 0	12,500	Colorado	35, Queen Victoria-st.
De Lamar......... *GS*	25/6 26/6	28/6 29/6	1 0	1/- Apr,'95	1 0 0	400,000	Idaho......	6, Draper's-gardens.
Dickens Custer *GS*	1/10½ 2/1½	1/9 2/3	1 0	—	0 19 9	420,000	Idaho......	Winchester Ho. E.C.
Elkhorn .... *S*	8/6 9/6	9/ 10/	1 0	-/6 May '95	1 0 0	175,007	Montana	6, Draper's-gardens.
Emma .... *S*	1/3 1/9	-/9 1/3	0 5	—	0 5 0	403,618	Utah	15, Geo-st, Mansn. Ho
Flagstaff .... *S*	—	—	1 0	—	0 18 9	240,000	Utah	Dashwood Ho., E.C.
Fisk .... *G*	—	—	1 0	6d May, 94	1 0 0	134,000	Colorado	5, Fenchurch st.
Garfield .. .. *GS*	—	—	1 0	-/6 Dec.'88	0 19 6	98,185	Nevada ...	Suffolk House, E.C.
Gen. M'g. Assoc. ...	6 6⅛ xd	6 6⅛xd	5 10	14/- Apr. 95	5 10 0	27,469	C. Breton	Blomfield House.
Golden Feather *G*	14/ 16/	10/ 11/	1 0	—	1 0 0	180,000	California	St. Stephens Cs E.C.
Golden Gate ...... *G*	¼ 5/16	4/- 5/	1 0	—	0 19 6	79,600	California	St. Stephens Cs E.C.
Golden Leaf...... *G*	4/3 4/9	4/3 4/9	1 0	—	1 0 0	300,259	Montana	8, Draper's Gardens.
Golden Valley... *G*	1/3	1/3	1 0	—	0 19 0	55,507	Colorado	15, Angel Court.
Harquahala... .. *G*	2/9 3/3	2/6 3/6	1 0	-/6 Oct.,'94	1 0 0	300,000	Arizona ...	6. Draper's Gardens.
Holcomb Valley *G*	3/3 3/9	3/3 3/9	0 5	—	0 5 0	540,000	California	14, Cornhill, E.C.
Idaho............... *GS*	5/6 6/-	4/9 5/3	0 5	-/2 Dec. 94	0 4 8	143,439	Idaho ...	140, Leadenhall-st.
Jackson Goldfields	1/7½ 1/10½	1/7½ 1/10½	5 0	—	0 5 0	408,635	California	11, Poultry, E.C.
Jay Hawk (New) *G*	3/6 4/-	3/6 4/	1 0	-/6 Dec.'92	0 19 3	285,000	Montana	Dashwood House.
La Plata............ *S*	3/- 3/6	2/9 3/3	0 5	1/3 Oct.'82	0 4 6	405,000	Colorado	11, Poultry, E.C.
La Yesca .... *GS*	7/ 8/	8/ 9/	1 0	—	0 19 0	175 015	Mexico ..	20, Bucklersbury, E.C.
Maid of Erin ... *S*	4/6 5/6	4/6 5/6	1 0	4c. psh Sept'94	1 0 0	575,000	Colorado	43, Threadneedle-st.
Mammoth Gold ...	—	—	1 0	—	1 0 0	400,000	Pnal, Ariz.	257, Winchester Ho.
Mesq. d'l Oro (P) *G*	—	—	5 0	—	5 0 0	10,000	Mexico ...	Dashwood Ho., E.C.
Mesq. d'l Oro (D) *G*	—	—	5 0	—	5 0 0	10,000	Mexico . .	Dashwood Ho., E.C.
Montana .... *GS*	12/- 13/-	11/6 12/6xd	1 0	-/3 Apr.'95	0 19 0	657,158	Montana	Gresham House, E.C.
New Colorado ... *S*	—	—	1 0	—	0 17 0	65,000	Colorado	Abchurch Cham. E.C.
N. Consolidated *SC*	—	—	0 5	—	0 3 6	248,576	Nevada ..	15, Angel-court, E.C.
N. Gold Hill...... *G*	1/- 1/6	1/- 1/6	1 0	—	0 19 9	191,045	N Carolina	15, George-st., E.C.
New Guston .... *S*	¼ ⅜	10/ 12/6	1 0	1/- Oct.'92	1 0 0	110,000	Colorado	25A, Old Broad-st.
New Hoover Hill *G*	-/3 -/6	-/3 /6	0 10	-/9 Dec. '85	0 10 0	120,000	N Carolina	Langthorne Ho., E.C.
Palmarejo ..... *GS*	2/6 3/-	2/6 3/-	1 0	—	1 0 0	418,888	Mexico ...	4, Copthall-buildings
Pinos Altos (Df) *GS*	8/- 10/-	6/6 7/6	1 0	-/6 Mar.'90	1 0 0	100,000	Mexico ...	110, Cannon-street.
Do. 15% Cum Pref	¾ 1	—	1 0	—	1 0 0	60,000	Mexico ..	110, Cannon street.
Pittsbg Con. (N) *G*	—	—	1 0	1/6 Mar.'88	0 19 0	77,147	Nevada ...	Suffolk House, E.C.
Poorman Con. *GS*	3/6 4/-	2/6 3/	0 5	—	0 5 0	273,948	Idaho	5, Copthall-b'gs, E.C.
Red Mountain ... *S*	—	—	1 0	—	1 0 0	46,686	Colorado	11, Poultry, E.C.
Richmond ... *GSL*	10/ 12/6	10/ 12/6	5 0	1/- Nov.'94	5 0 0	54,000	Nevada ...	44, Coleman-street.
Sierra Buttes ... *G*	10/ 12/ xd	10/ 12/ xd.	2 0	-/6 Apr.'95	2 0 0	122,500	California	138, Leadenhall-st.
Do. Plumas Eur. *G*	12/6 15/ xd	12/6 15/xd.	2 0	-/9 Apr.'95	2 0 0	140,265	California	138, Leadenhall-st.
Springdale......... *G*	3/6 4/-	3/6 4/	$1	2d Aug., 94	$1	1,000,000	Colorado	20, Abchurch Lane.
Twin Lake Placers	1¼ 1⅜	1⅛ 1¼	1 0	3/- Feb.'95	1 0 0	26,000	Colorado	5, Lawrence P. Hl. E.C.
United Mexican *S*	⅛	⅛	1 0	2/6 May,'87	1 0 0	906,654	Mexico ...	3, Gt. Winchester st.

SOUTH AND CENTRAL AMERICAN MINES.

Name.	Closing Price, May 10, 1895	Closing Price, May 3, 1895.	Am't. of Share	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Anglo-Chilian Pt *N*	8½ 9	7⅛ 8	10 0	4/5 Dec.'89	10 0 0	35,000	Antofagst.	23, Bishops.-st. W.
Do. 6% Rylst *MB*	99 101	99 101	100 0	6% Jan.,'95	100 0 0	£200,000	Antofagst.	123, Bishops.st. W.
Antio. (Pref.) *G.S.*	—	—	1 0	-/6 Mar.'90	1 0 0	22,823	Colombia	184, Gresham Ho.
Antioquia (ordiny)	—	—	1 0	—	1 0 0	42,453	Colombia	184, Gresham Ho.
Caratal............ *G*	1/6 1/9	1/3 1/9	2/6	—	0 2 6	1,330,000	Venezuela	57, Moorgate-st. E.C
Caylloma............ *S*	1¼ 1⅜	1¼ 1⅜	2 0	1/- Apr. 94	2 0 0	125,000	Peru	52, Leadenhall street
Colon .... *G*	1/- 1/6	1/3 1/9	0 5	—	0 4 0	200,000	Colombia	5, Copthall-bdgs., E.C.
Colorado Nit. ... *N*	2 2⅛ xd	2 2⅛	5 0	4/- May,'95	5 0 0	32,000	Chili	12, King-st., Liverp'l
Colombia...... ..... *G*	—	—	20 0	10 frs. Aug. 94	20 0 0	—	Venezuela	Ciudad Bolivar.
Colombian Hy... *G*	11/- 12/-	11/6 12/6	1 0	1/- Sept.'94	1 0 0	75,000	Colombia	10, Blomfield-street
Copiapo .... *C*	1⅜ 1⅝	1⅜ 1⅝	2 0	1/- Dec.'94	2 0 0	100,000	Chili	Dashwood House, E.C
Darien "A" ...... *G*	2⅞ 3	3¼ 3⅜	1 0	—	1 0 0	49,553	Colombia	Manchester.
Don Pedro......... *G*	8/- 9/-	9/6 10/6	1 0	—	0 18 6	133,102	Brazil......	24-5, Devonsh. Cs E.C
El Callao .... *G*	⅜ ⅝	10/ 12/	5 0	9½d Feb.'94	5 0 0	257,000	Venezuela	8, Bishopsgt.-st., Wn
Frontino & B. ... *G*	1 1/16 1 1/16	1 1/16 1 1/16	1 0	1/- Mar. '95	1 0 0	158,662	Colombia	184, Gresham House
Glenrock .... *G*	1/6 2/-	1/6 2/	1 0	—	1 0 0	[illegible]	Arg. (& I.)	3-5, Queen-street, E.C
Gravel........... *G*	[illegible]	[illegible]	1 0	—	[illegible]	100,000	Colombia	10, Blomfield-street
Guadalupe ...... *GS*	[illegible]	[illegible]	1 0	—	1 0 0	180,000	Honduras	[illegible]

"THE MINING JOURNAL" SHARE LIST—(Continued)

SOUTH AND CENTRAL AMERICAN MINES—(*Continued*).

Name.	Closing Price. May 10, 1895	Closing Price May 3, 1895.	Am't. of Share	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d			
Huanchaca ....S	—	—	5 0	4/- Sept. '94	5 0 0	320,000	Bolivia ...	10, Avnu. d'Alma, Paris
Javali ....G	-/6 1/6	-/6 1/6	0 2	8½ % '91	0 2 0	105,234	Nicaragua	139, Cannon-street.
Julia Taltal ......N	9/16 11/16	9/16 11/16	1 0	—	1 0 0	200,000	Chili	79½, Gracechurch-st.
Lagunas ....A	5¾ 6¼	6⅛ 6⅜	5 0	15p.c. Dec.'94	5 0 0	120,000	Tarapaca	3, Gracechurch st.
Lautaro ....N	7¾ 8¼	7¾ 8¼	5 0	7/6 Dec. 94	5 0 0	110,000	Chili	70, Gracechurch st.
Liverpool ....N	10⅛ 11⅛xd	11 12	5	15/-May, 95	5 0 0	22,000	Chili	Liverpool.
Loma ....G	2/- 2/6	1/9 2/3	1 0	—	1 0 0	300,000	Colombia	5, Copthall-building.
London Nit.........N	1¾ 2¼	1¾ 2¼	3 0	3/4¾ Nov. '89	5 0 0	10,000	Chili	9, Gracechurch-st
LondonNit.(Pref.)	3⅛ 4	3⅛ 4	5 0	8% Nov. '94	5 0 0	22,000	Chili	9, Gracechurch-st
M.cate	3/3 3/9	3/- 3/6	0 2	—	0 2 0	200,000	Peru	11, Old Broad-st, E.C
New Tamarugal N	7/16 9/16	⅜ ⅝	1 10	1s. Dec. '94	1 10 0	130,000	Tarapaca	50, Lime-street, E.C
Do. 8 % Cum Pref	⅞ 1	⅞ 1	1 10	8 p.c. Feb. '95	1 10 0	130,007	Tarapaca	50, Lime-street, E.C
Do 6 p.c. Debs ...	91 95	88 92	100 0	6 p.c. Feb. '95	100 0 0	£260,000	Tarapaca	50, Lime-street, E.C
Oilta ....G	1/6 2/-	1/ 1/6	1 0	1/- April '89	1 0 0	30,000	Colombia	10, Blomfield-street.
Ouro Preto ....G	—	—	1 0	—	1 0 0	80,000	Brazil	6, Queen-street-place
P. c. & Jazpampa N	3⅛ 3⅜	3⅛ 3⅜	5 0	5/- Aug '94	5 0 0	72,000	Tarapaca	3, Gracechurch-st.
Primitiva ....N	1⅛ 1⅜	1⅝ 2	5 0	20% Oct. '89	5 0 0	40,000	Chili	Liverpool.
Quebrada C	⅛ ¼	3/ 5/	3 0	5% Mar. '92	3 0 0	241,956	Venezuela	38, Nicholas Lane.
Quebrada C	—	—	8 k.	6% Feb., 94	100 0 0	£400,000	Venezuela	38, Nicholas Lane.
Rosario ....N	4¾ 5¼	5 5¼	5 0	7/6 Feb. '95	5 0 0	120,000	Chili	57¼, Old Broad-street
Rosario (5% Deb.	103 105	103 105	100 0	5% April '95	100 0 0	£175,000	Chili	57½, Old Broad-street
St. John del Rey G	17/16 19/16	28 30	1 0	10% June '82	1 0 0	323,990	Brazil	Finsby. Ho., Blmf'd st
San Donato ....N	2¼ 2¾	2¼ 2¾	5 0	—	5 0 0	37,000	Chili	12, King-st., Liverp
San Jorge ....N	6⅛ 6⅜	6 6½	5 0	7/6 Sept. '94	5 0 0	75,000	Chili	9, Gracechurch-st.
San Pablo ....N	2 2⅛	2 2⅛	5 0	2½% Nov., '94	5 0 0	32,000	Chili	Gracechurch-st
Santa Barbara ...G	—	—	0 10	1/3 Dec. '86	0 10 0	60,000	Brazil	Liverpool
SantaElena ..... N	⅜ ⅝	½ ¾	5 0	5/- Oct. '94	5 0 0	22,000	Tarapaca	3, Gracechurch-st.
Santa Rita ....A	3¾ 4¼	4 4⅛	5 0	15% Apr., '94	5 0 0	20,000	Chili	Dashwood House, E.C
San Sebastian ...N	2⅛ 2¾	2⅜ 2⅞	5 0	5/- Dec.'94	5 0 0	29,000	Chili	Dashwood House. E.C
Segovia ....G	—	—	5/-	—	0 5 0	120,000	Colombia	5, Copthall-building.
Sucre Pref..........G	—	—	1 0	10% Dec. '94	0 15 0	840	Colombia	23, St. Swithin's ln.
Sucre Ord...........G	—	—	1 0	6% Dec. '94	1 0 0	10,000	Colombia	23, St. Swithin's ln.
Tolima "A" ....S	7¼ 7½	7⅛ 8xd.	5 0	10/- Apr., '95	5 0 0	14,000	Colombia	18, Finsbury-circus.
Do. "B" ....S	6½ 7	6½ 7 xd.	5 0	10/- Dec., '94	5 0 0	6,000	Colombia	18, Finsbury-circus.
Vic. & Altamira ...	3/3 3/6	3/3 3/9	0 5	—	0 5 0	200,000	Venezuela	Broad-st. Avenue.
West Indian......G	—	—	0 1	—	0 1 0	1,725,585	Singo.Dm	110, Cannon-street.

AFRICAN MINES.

Name.	Closing Price. May 10, 1895	Closing Price May 3, 1895.	Am't. of Share	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Abercorn Reef ...G	-/9 1/3	/9 1/3	0 5	—	0 4 0	—	Millwood	16, Tokenhouse Yard
African Alluvial ...	1 7/16 1 9/16	1 7/16 1 9/16	1 0	—	1 0 0	130,000	Mozambiq	11, Poultry.
African Alluvial ...	12/ 12/6	12/ 12/6	1 0	—	0 3 6	20,000	Mozambiq	11, Poultry.
African Coal	8/- 8/6	7/6 8/6	1 0	—	0 16 6	300,000	Middlebrg	19, St. Swithin's-lane
African Gold Con.	2/3 2/9	3/ 4/	0 10	20 p.c. Jan.'95	0 8 0	300,000	Mossel By	16, Tokenhouse-yard
African Gold Ryco.	1 7/16 1 9/16	1 7/16 1 9/16	1 0	2/- Oct. 94	1 0 0	175,000	—	23, College Hill.
Afrikander .... G	2 13/16 2 15/16	2¼ 2⅜	1 0	—	1 0 0	40,000	Transvaal.	19, St. Swithin's-lane
Agnes Block...... G	9/16 11/16	12/6 15/	1 0	—	1 0 0	78,507	Transvaal.	54, Old Broad-street
Alexandra EstateG	13/ 14/	17/ 18/	1 0	—	1 0 0	225,000	Rand	Warnford Court, EC.
Anglo-French Exp.	4⅜ 4¼ xd	3¾ 4	5 0	10% Dec. 94	5 0 0	30,300	S. Africa	170, Winchester Ho.
Appantoo .... G	—	—	1 0	—	1 0 0	77,585	West Cost	Dashwood House.
Aurora............ ..G	1 5/16 1 7/16	22/ 24/	1 0	5% Mar,'93	1 0 0	65,000	Rand	8, Old Jewry.‡
Balkis EerstelingG	5/ 5/6	4/ 5/	0 10	—	0 10 0	520,000	Transvaal.	85, Gracechurch-st.
Balkis Land	5/9 6/3	5/9 6/3	0 10	—	0 10 0	520,000	Transvaal.	85, Gracechurch-st.
Banket................G	9/ 10/	10/ 11/	1 0	—	1 0 0	200,000	Rand	Johannesburg.
Bantjes Reef ....G	3 7/16 3 9/16	3 15/16 4 1/16	1 0	—	1 0 0	83,000	Rand	Warnford-court.†‡
Barrett.............G	13/- 14/	14/- 15/-	0 10	—	0 9 0	207,496	De Kaap	17, Basinghall-street
Bechuanaland Exp.	2 7/16 2 9/16	2⅛ 2⅝	1 0	1/- Mar. 95	1 0 0	200,000	Bechuana.	19, St.Swithin's-lane
Bech. Trad'g Assoc.	1 7/16 1 9/16	1 7/16 1 9/16	1 0	10 p c May, 95	1 0 0	100,000	Bechuana.	19, St.Swithin's-lane.
Big Golden Quarry	3/1½ 3/4½	2/3 2/9	5/-	—	0 5 0	483,226	Kaap Rivr	4, Bishpsgte. st. Wn.
Block "B" Lang.	25/6 26/6	23/ 24/	1 0	—	1 0 0	535,000	Rand	8, Prince's-st., E C.‡
Booysen Land .G	3⅜ 3⅝	3⅜ 3⅝	1 0	—	0 12 0	95,000	Transvaal.	4, Tokenhouse-blds
Brit. S. A. Char. ..	4⅛ 4¼	4½ 4⅝	1 0	—	1 0 0	2,000,000	S. Africa	19, St. Swithin's-lane
Buffelsdoorn...... G	5⅜ 5¾	5¾ 6	1 0	—	1 0 0	250,000	Potchefstr	7, Lothbury.
Bulawayo Synd. ...	⅞ 1pm	⅞ 1pm	1 0	—	1 0 0	12,000	Matabele.	10, Helen's Place.
Cape Asbestos	2⅛ 2⅝	2 7/16 2 9/16	1 0	—	1 0 0	50,311	Orange Rv	19, St. Swithin's-lane
Cape Copper C	1 15/16 2 1/16	1 11/16 1 13/16	2 0	1/3 Dec. '94	2 0 0	300,000	Cape Col.	9, Queen-street-place.
Do. 6 % Pref. ...	2 2¼	2 2¼	2 0	1/3 Dec. '94	2 0 0	45,000	Cape Col.	9 Queen-street-place.
Cassel Colliery......	4⅞ 5⅛	4⅞ 5⅛xd.	1 0	10pc June'95	1 0 0	75,000	Johanbrg.	99, Cannon-street.
Con. Montrose... G	6/- 7/-	6/- 7/	1 0	—	0 18 6	69,000	Transvaal.	15, George st. Mn. Ho.
Champ d'Or... G	4⅛ 4⅜	4⅛ 4⅜	1 0	4/- Jan. 95	1 0 0	118,016	Rand	8, Old Jewry, E.C.
Champ d'Or DeepG	1¾ 1⅞	2 15/16 2 1/16	1 0	—	1 0 0	117,499	Rand	8, Old Jewry, E.C.
City and Suburb.G	25¾ 26¾	26¾ 27¾	1 0	25% Mar. '95	1 0 0	75,000	Rand	96, Gresham Ho., E.C
Coetzeestroom ...G	10/6 11/	13/ 14/	0 5	—	0 5 0	140,000	De Kaap	105, Leadenhall-street
Con. Bultfontein D	28/9 29/3	28/ 29/	1 0	3½% Sept. '94	1 0 0	721,500	Griqualnd	62, Lombard-st.
Con. Deep LevelsG	5⅜ 5⅝	5¼ 5½	1 0	4/- June '94.	1 0 0	187,250	Transvaal	30, St. Swithin's-lane
Con. G. Fields S A.	9¾ 10 xd	9½ 9¾	1 0	15% Nov. '94	1 0 0	1,250,000	S. Africa	8, Old Jewry.
Do. 6 % Pref.	22/6 23/6	23/ 24/	5 0	—	1 0 0	1,243,999	S. Africa	8, Old Jewry.
Do. 5½% Deben...	109 110	109⅛ 110⅛	1 C	5¾ Jan. '95	5 0 0	670,000	S. Africa	8, Old Jewry.
Crown Reef .. ...G	10 10¼	10⅛ 10⅜	1 0	25% June'95	1 0 0	120,000	Rand	120, Bishopsgt st Wn‡
De Beers Consol. D	20 15/16 21 1/16	20⅞ 21⅛	5 0	12/6 Jan. '95	5 0 0	789,791	Transvaal.	62, Lombard-street.
Do. 5% 1st Deb....	108 108⅛	108 109	—	5% Jan. '95	—	£3,500000	Transvaal.	62, Lombard-street.
Do. 5½ % Bul. Ob.	103 104	103¼ 104⅛	—	5½% Apr. 95	—	720,000	Transvaal.	62, Lombard-street.
Durban Roodept.G	7 9/16 7 11/16	7 7⅛	1 0	3/- Mar., '95	1 0 0	£125,000	Rand	28, Leadenhall-bldgs
Eastleigh ....G	1⅞ 2	2 5/16 2 5/16	1 0	—	1 0 0	240,000	*Klerksdrp	Winchester House.
East Rand.........G	5⅝ 5¾	5⅞ 6⅛	1 0	—	1 0 0	570,000	Rand	170, Winchester-ho.
Evelyn ....G	1⅛ 1¼	1 3/16 1 5/16	1 0	10% Jan. '89	1 0 0	66,000	Rand	28, Old Jewry, E.C
Exploration	2 2⅛ p.m.	1⅝ 1⅞pm	1 0	1/- Dec. '94	0 4 0	148,000	S. Africa	30, S. Swithin's-ln.‡
Exploring Co.	6⅛ 6¾	6⅛ 6¾	1 0	25/- Feb. '94	1 0 0	69,350	S. Africa	19, S. Swithin's-ln.
Ferreira ....G	17¼ 17¾	17 17⅛	1 0	50% Mar. '95	1 0 0	45,000	Rand	120, Bishopsgt st. Wn
Forbes Reef (Nw)G	—	12/6 15/-	1 0	—	1 0 0	105,000	De Kaap	45-6, Leadenhall-st.
F Johnson & Co....	20/- 21/-	20/6 21/6	1 0	—	1 0 0	200,000	Mashonld.	8, Old Jewry‡
Geldenhuis DeepG	8¾ 9⅛	10 10¼	1 0	—	1 0 0	265,000	Transvaal.	30, St. Swithin's-lane.
Geldenhuis Est. G	6 15/16 7 1/16	7¼ 7⅛	1 C	5% April '95	1 0 0	187,500	Rand	120, Bishopsgt st. Wn‡
Do. Main Reef	24/6 25/6	23/6 24/6	1 0	5% Apr., 95	1 0 0	150,000	Rand	Warnford Court, E.C
George and May G	1 15/16 2 1/16	2⅛ 2⅜	1 0	—	1 0 0	112,750	Rand	7, Great St. Helen's.
George Goch ...G	3⅜ 3⅛	3⅛ 3⅝	1 0	—	1 0 0	100,000	Rand	Johannesburg.
Glusberg	2⅛ 2⅜	2¼ 2⅜	1 0	—	1 0 0	130,000	Drietfon.	Warnford Court, E.C‡
Glencairn ....G	4⅛ 4¼	4¼ 4⅛	1 0	7½ pc Jan. 95	1 0 0	200,000	Rand	2, Drapers-gardens.
Gold Coast Devel.	7/6 8/-	7/3 7/3	—	—	—	—	—	11, Queen Victoria-st
Gold Estates T....G	12/- 13/-	7/ 8/	1 0	15% Dec.'89	0 10 0	130,000	Transvaal.	46, Queen Victoria-st
Gld. Fis. Deep...G	6⅛ 6⅞	7⅛ 7⅜	1 0	—	1 0 0	600,000	S. Africa	8, Old Jewry.
G. F. of Mashonld.	⅜ ⅞	⅜ ⅞	1 0	—	1 0 0	200,000	Mashonld	19, St. Swithin's ln.
G F. Tierrad' Fuego	3/9 4/3	3/9 4/3	0 4	—	0 4 0	400,000	Mozambiq	2, Tokenhouse Bldgs
Grahamstown .. G	18/- 19/-	17/- 18/	1 0	—	1 0 0	150,000	Rand	14, Throgmorton-st

AFRICAN MINES—(*Continued*)

Name.	Closing Price, May 10, 1895	Closing Price, May 3, 1895.	Am't. of Share	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Graskop ....G	7/9 8/3	6/- 7/-	0 5	2½% Mar. '91	0 5 0	400,000	Lydenburg	85, Gracechurch-st.
Griqualand W....D	7⅜ 7⅝	7⅜ 7⅝xd.	10 0	2% Sept. '94		105,700	Transvaal .	62, Lombard-street
Guy Fawkes...... G	10/6 11/6	11/- 13/-		—	10 0 0		—	
Gwelo Exploratn.	4/- 4/6	3/6 4/6	0 10	—	0 8 0	24,000	Manica......	Broad-st. Avenue
Harmony (Pref) G	9/6 10/6	9/6 10/6	1 0	—	1 0 0	260,000	—	79½, Gracechurch-st
Henderson's Trans	4⅞ 5⅛	4⅛ 4⅝	1 0	—	1 0 0	2[illegible]0,000	Zoutpanbg	85, Gracechurch st.
Henry Nourse ...G	6 3/16 6 5/16	6⅜ 6⅝	1 0	—	1 0 0	100,000	De Kaap...	Warnford-court.
Joe's Reef .... G	⅞ 1	13/6 14/6	1 0	—	1 0 0	57,404	De Kaap ..	21, Mincing Lane.
Johannesburg G.F	7/- 8/-	8/6 9/6	1 0	—	1 0 0	99,537	Johanburg	31, Lombard st., E.C.
Johannes. Invest.	4 7/16 4 9/16	4⅜ 4⅝	1 0	10 p c Dec. 94	1 0 0	650,000	—	7, Lothbury.
Johannesburg Par	5 5¼	5⅛ 5⅜	1 0	12½% Nov.'94	4 0 0	2[illegible],000	Rand.........	Johannesburg.
Jubilee ....G	11¾ 12	9¾ 10	1 0	30% April '95	1 0 0	30,000	Rand.......	8, Old Jewry.†
Jumpers ....G	5 7/16 5 9/16	5⅜ 5⅞	1 0	25% Dec. '94	1 0 0	100,000	Rand...	120, Bishopsgt st, Wn‡
Kaffirs.........	¾ 1	¾ 1	1 0	—	1 0 0	80,000	Nrth. Kaap	3, Budge Row, EC
Kimberley .. ..D	par ⅛ pm	⅛ ¼pm	1 0	—	0 10 0	98,672	Kimberley	19, Finsbury circus.
Kimberley R'ipt....	4⅛ 4⅜	4 4¼	1 0	—	1 0 0	125,000	Kimberley	2, Drapers-gardens.
Klerksdorp	30/6 31/6	25/ 26/	0 10	—	0 8 0	400,000	—	110, Cannon St.
Koffyfontein......D	1 7/16 1 9/16	1¾ 1⅞	1 0	—	0 5 0	50,000	Jacobsdaal	120, Bishopsgt st. Wn
Langlaagte Est. G	4 15/16 5 1/16	4⅞ 5	3 0	10 p.c. Mar.'95	1 0 0	467,000	Rand.........	59, Holborn Viaduct
Do. Royal	4¼ 4⅜	4¼ 4½	1 0	5% Sept. '93	1 0 0	100,000	Rand...	2, Drapers-gardens.
Lionsdale	12/- 12/6	11/6 12/6	1 0	—	1 0 0	115,000	Lydenburg	85, Gracechurch-st.
Lisbon-Berlyn .. G	6/6 7/6	7/9 8/3	2/6	—	0 2 6	88,233	Lydenburg	110, Cannon-street
London & S. A. Ex.	11¾ 12¼	11¾ 12¼	0 10	3/- Mar. '95	0 10 0	100,000	S. Africa ...	19, Finsbury-circus.
Lower Roodepoort	13/- 13/6	11/- 12/-	1 0	—	1 0 0	150,000	Vlakfontn	8, Old Jewry, E.C.
Luipaards Vlei Est	22/ 23/	23/- 24/-	1 0	6% Mar. '90	1 0 0	319,003	Rand..... ...	Warnford-court.‡
Main Reef (New)G	1 9/16 1 11/16	28/ 30/	1 0	—	0 10 0	300,000	Rand.........	8, Old Jewry.
Mashon Agency .	3⅛ 3¼	2¼ 2⅞	1 0	—	1 0 0	100,000	Mashonald	8, Old Jewry, E.C.
Massi Kessi	9/3 10/6	10/- 11/-	0 10	—	1 0 [illegible]	60,000	Manica	Broad Street Avenue
May Con. (New) G	3 9/16 3 11/16	3¾ 3⅞	1 0	10 p c Apr. 95	1 0 0	430,000	Rand	4, Lothbury.‡
Metropolitan (N) G	2⅞ 3	3⅛ 3¼	1 0	—	1 0 0	75,020	Rand..... ...	1, Crosby Square ‡
Meyer & Charl....G	7⅜ 7⅝	7⅜ 7⅞	1 0	30% Dec. '94	1 0 0	71,687	Rand.........	Warnford-court.‡
Modderfontein . G	16⅛ 16⅜	16½ 16¾	1 0	—	1 0 0	200,000	Rand......	Warnford-court.‡
Montrose......... G	1 3/16 1 5/16	1⅝ 1¾	1 0	3/- Feb. '90	1 0 0	70,000	De Kaap ...	65, New Broad-street
Moodies G.&E....G	1 1/16 1 3/16	26/3 28/9	1 0	-/4 May '90	1 0 0	240,000	De Kaap .	8, Old Jewry ‡
Mozambique.	34/6 35/6	28/6 29/6	1 0	—	1 0 0	400,000	S E. Africa	Broad-street House.
Namaqua C	½ ¾	½ ¾	2 0	2/6 July '91	2 0 0	94,351	Namaqualnd	34, Leadenhall-blds.
New African	6¼ 7	4¼ 4¼	1 0	—	1 0 0	190,000	—	83, Hatton Garden.
New Ariston.........	—	—	1 0	—	1 0 0	2[illegible],180	Klerksdorp	Winchester House.
NewAurora WestG	—	—	1 0	5% Mar., '93	1 0 0	30,000	Rand.........	1, Crosby Square
N. Belgium Land...	7/ 8/	7/ 8/	1 0	—	0 17 0	167,462	Waterberg.	23, Cornhill.
New Chimes...... G	3 5/16 3 7/16	3 15/16 4 1/16	1 C	2/- Feb., '95	1 0 0	100,000	Rand.........	8, Old Jewry, E.C
New Clewer Estate	1¼ 1⅞	1⅜ 2	1 0	10% Feb. '95	1 0 0	100,000	Lydenburg	120, Bishopsgt st. Wn
New Crœsus...... G	2⅛ 2⅜	2¼ 2⅞	1 0	5 % Aug. '92	1 0 0	255,000	Langlaagte	120, Bishopsgt. st. Wn
New Gordon......D	7/6 8/6	8/6 19/6	1 0	5% Dec. '89	1 0 0	404,344	Griqualand	110, Cannon-street.
New Heriot ......G	11⅝ 11⅞	11⅛ 11⅜	1 0	25 p c Mar. 95	1 0 0	88,750	Rand.........	96, Gresham Ho. EC
New Jagersf. ...D	10 10¼	9¾ 10	5 0	10% Mar., '95	5 0 0	100,000	Transvaal .	5, Copthall-buildings
N. Kleinfontein G	5 15/16 6 1/16	6¼ 6⅛	1 0	12½pc Mar.'95	1 0 0	82,500	Rand.........	Winchester House.
New LouisD'Or.. G	3/3 3/9	2/9 3/3	1 0	—	1 0 0	—	Rand.........	53, New Broad-street
New Primrose ...G	7⅛ 7⅜	7⅜ 7½	1 0	4/- April '95	1 0 0	278,750	Rand.........	2, Draper's-gardens.
New Rand............	par ⅛ pm	par ⅛ pm	1 0	—	1 0 0	110,000	Rand...... .	Bartholomew-house
New RietfonteinG	4 7/16 4 9/16	4⅜ 5	1 0	—	1 0 0	160,000	Rand.........	Warnford-ct., E.C.
NewS. AugustineD	14/6 15/6	10/6 11/6	1 0	—	0 19 6	299,137	Griqu'ld W	30-1, St. Swithin's-la
New Spes Bona...G	3⅝ 3¾	3⅞ 4⅛	1 0	—	1 0 0	113,701	Rand.........	24, N. John-st., L'pl
New Steyn Estate	2 3/16 2 7/16	2⅛ 2⅜	1 0	—	1 0 0	125,000	Heidelberg	19, Bury Street. E.C
New Virginia ...G	3/3 3/9	2/6 3/6	0 10	—	0 10 0	48,335	Transvaal	26, Budge-row, E.C
Nigel .... G	7⅜ 7⅛	8⅛ 8⅜	1 0	10% Mar. '95	1 0 0	160,000	Rand.........	96, Gresham Ho., EC
Nigel Deep ......G	2⅞ 3	2¾ 3	1 0	—	1 0 0	195,000	Heidelberg	8, Old Jewry.
Nigel Extension ...	11/3 11/3	12/ 13/-	10/-	—	0 10 0	180,000	Rand.........	Basing House, E.C.
North Sheba	8/ 8/	12/- 14/-	—	—	—			88, London Wall.
Nourse Deep.........	5⅜ 6⅛	6¼ 6⅛	1 0	—	1 0 0	375,000	Rand.........	120, Bishopgt.-st., Wn.
Nyassa (Bearer) ...	1 1⅛	⅞ 1⅛	1 0	—	1 0 0	248,585	Mozamb'qu	Bartholomew House
Oceana	3 3⅛	3 3⅛	1 0	25/- Nov.'89	1 0 0	326,000	Transvaal .	4, Sun Court, E.C
Oceana Develpmnt	1⅝ 1 11/16	1⅝ 1¾	1 0	—	1 0 0	50,000	Transvaal .	4, Sun Court, E.C.
Ophir Concess. ...	5/3 5/9	5/7 6/6	1 0	—	0 18 6	111,857	E. C. Africa	31, Lombard-street.
Orange F.S.E. ...D	4¾ 5¼	4¾ 5¼	1 0	12½% May 95	1 0 0	284,000	OrangeF.S.	10, Moorgate-street.
Orion.................. G	3⅛ 3⅝	3 9/16 3 11/16	1 0	10% Mar. '95	1 0 0	30,000	Rand.........	8, Old Jewry.
Otto's Kopje........D	6/3 6/9	4/9 5/3	1 0	—	1 0 0	437,888	Kimberley	110, Cannon-st., E.C.
Paarl Central ... G	1⅛ 1⅝	21/6 32/6	1 0	—	1 0 0	138,750	Transvaal .	120, Bishopsgt st. Wn.
Pardy's Mozambq.	2⅛ 2⅜	2 7/16 2 9/16	0 10	1/- Jan. 95	0 10 0	13,000	S.E. Africa	Broad St. Avenue.
Pardy's Range......	10/6 11/	10/6 11/-	0 10	—	0 10 0	—	Manica......	Broad St. Avenue.
Piggs Peak ...... G	1 1⅛	22/6 25/	1 0	—	0 17 6	200,000	Swazieland	6, Queen-street-place
Piggs Peak ...... G	—	—	1 0	—	0 17 6	60,652	Swazieland	6, Queen-street-place
Pleiades..............	2 1/16 2 3/16	2 1/16 2 5/16	1 0	—	1 0 0	140,000	Black Reef	
Potchefstroom... G	1 9/16 1 11/16	38/ 40/	1 0	—	1 0 0	389,750	Potchefstm	19, Bury-st., E.C.
President Land ...	5/3 5/9	7/ 8/-	1 0	—	1 0 0	193,325	Transvaal .	17, Basinghall Street
Princess Estate G	3 5/16 3 7/16	3⅜ 3¾	1 0	—	1 0 0	125,000	Rand.........	33, Cornhill, E.C.
Randfontein ......G	42/6 43/6	44/6 45/6	1 0	—	1 0 0	2,000,000	Rand.........	59, Holborn Viaduct.‡
Rand Mines ...... G	31¾ 32¼	33¾ 34¼	1 0	—	1 0 0	332,798	Rand.........	120, Bishopsgt st. Wn‡
Rand-Rhodesia ...	2 11/16 2 13/16	2⅝ 2⅞	1 C	—	1 0 0	25,000	R&Rhodesa	Warnford court, E.C.
Read's Drift ......D	1⅞ 2⅛	2¼ 2½	1 0	—	1 0 0	37,000	Transvaal .	19, Finsbury-circus.
Rhodesia Expln ..	8¾ 9	8 8½	1 C	—	1 0 0	50,000	Mt & Mash'l	8, Old Jewry.
Robinson ....G	8⅞ 9⅛	8⅞ 9⅛	5 0	5/- Jan. '95	5 0 0	550,000	M. Rf.'rand	28, Austin Friars, E.C
Roodepoort Deep	4 3/16 4 5/16	4 4¼	1 0	—	1 0 0	170,000	Rand.........	8, Old Jewry, E.C.
Roodepoort (Kim.)	4⅛ 4⅜	4¼ 4⅛	1 0	—	1 0 0	100,000	Rand.........	7, Lothbury, E.C.
Roodepoort Un. G	5⅝ 5¾	5⅝ 5⅞	1 0	10p.c. Dec. '94	1 0 0	130,000	Rand.......	Warnford-court.‡
Rose Deep	5⅛ 6	6¼ 6⅝	1 0	—	1 0 0	300,000	M. Rf.'rand	30-31, S. Switn's. lane.
Rosenblock Tw'Rfs	15/16 1 1/16	15/16 1 1/16	1 0	—	1 0 0	60,000	Krugersdp	4, Tokenhouse bldgs.
Salisbury Gold ...	5 11/16 5 13/16	5⅝ 5⅞	1 0	—	1 0 0	99,000	Rand.........	96, Gresham Ho., EC
Sheba ....G	2 1/16 2 3/16	2 5/16 2 7/16	1 0	1/- Sept. '94	1 0 0	850,000	Lydenburg	18, S. Helen's place.
Silati ....G	9/- 10/-	9/- 11/-	1 0	—	0 18 6	119,000	Zoutpan'bg	4, Sun Court, E.C.
Simmer & Jack...G	14¾ 15	14⅛ 14¾	1 C	10% Feb. '95	1 0 0	250,000	Rand......	8, Old Jewry.
S. A. Gold Trust ...	8 1/16 8 3/16	6¼ 6⅛	1 0	6/6 Jan. '95	1 0 0	250,000	S. Africa	8, Old Jewry.
Southern Geldnus.	8/6 9/	9/ 10/	1 0	—	1 0 0	120,000	Elandsfont	6, Great St. Helen's
Southern Land......	16/ 17/	14/6 15/6	1 0	—	0 15 0	80,000	{ Griqld.W.	19, St. Swithin's-ln.
Southern Land......	14/ 15/	14/- 15/-	1 0	—	1 0 0	20,000	} & B.Bech	19, St. Swithin's-ln.
South West Rand	2⅛ 2⅜	2⅛ 2¾	1 0	—	1 0 0	158,000	Rand.........	Winchester House.
Spitzkop (New) G	1 11/16 1 13/16	33/ 34/	1 0	—	1 0 0	99,070	Lydenburg	15, Bishopsgt-st, Wt.
Stanhope ....G	1⅛ 2	1⅞ 2⅜	1 0	20% Jan. '95	1 0 0	34,000	Rand...	96, Gresham Ho., EC
Sutherland R. ...G	14/- 15/-	17/6 18/6	1 0	—	1 0 0	220,000	Zoutpan'bg	Dashwood Ho.
Teutonia............G	⅞ 1	⅞ 1	1 0	—	1 0 0	100,000	Rand.........	8, Old Jewry.
Thistle Reef ...... G	5/9 6/3	4/6 5/-	0 5	—	0 5 0	547,976	Barberton	Copthall House
Trans. Coal Trust...	1⅜ 1¼	1 9/16 1 11/16	1 0	1/- Mar. '95	1 0 0	439,965	Rand...	Broad-st. House, E.C
Trans. Est. & Dev.	1 1⅛	1⅛ 1¼	1 0	—	1 0 0	285,700	Transvaal .	76, Old Broad-st E.C.
Trans. Gen. Assoc.	2⅞ 3⅛	2⅜ 2⅞	1 0	10% Mar. 95	1 0 0	210,000		30, S. Swithin's lane.
Trans. Gold Exp. G	4 13/16 4 15/16	5 3/16 5 5/16	1 0	1/- Mar. '95	1 0 0	260,000	Transvaal .	Suffolk House, E.C
Trans. Gold Fields	3 11/16 3 13/16	3 11/16 3 13/16	1 0	—	1 0 0	135,000	S. A. R.......	120, Bishopsgt.-st. Wn
Trans. Land...	11/16 ¾	15/- 17/	1 0	—	1 0 0	79,915	Transvaal .	33, Cornhill.
Trans. Land.........	8/ 9/-	1/- 9/-	1 0	—	0 15 0	169,999	Transvaal .	33, Cornhill.
Treasury............G	4⅛ 4⅜	4 4⅛	1 0	12½% Sep.'91	1 0 0	60,000	Rand.........	Warnford Court.
Turffontein Est. ...	—	—	1 0	2½ Nov. 94	1 0 0	4[illegible],007	So. Africa...	130, Winchester Ho.
U. G. F. of Manica	9/ 10/	9/ 10/-	1 0	—	1 0 0	100,492	Manica... .	Broad Street House.
Un. Ivy Reef.......G	1¼ 1⅜	1¼ 1⅜	1 0	2½ Jan. '94	1 0 0	45,000	Transvaal .	110, Cannon-street
U. Langlaagte(N)G	3 11/16 3 13/16	3⅜ 3¾	1 0	—	1 0 0	146,000	Rand.........	113, Bishopsgt-st Wn‡
United Matabele ..	1⅜ 1⅛	1⅜ 1⅝	1 0	—	1 0 0	75,000	Africa	19, S. Swithin's lane.
United Pioneer......	1 7/16 1 9/16	1 7/16 1 9/16	1 0	—	1 0 0	75,000	De Kaap ...	16, S. Helen's-pl, E.C.
Van Ryn .... G	10⅜ 10⅝	9⅜ 9⅝	1 0	—	1 0 0	160,000	Rand.........	18, St. Swithin's-ln.
Village Main Reef	6⅝ 6⅞	7⅛ 7⅜	1 0	—	1 0 0	177,000	Rand.........	8, Old Jewry.
Wassau ....G	—	—	1 0	—	1 0 0	190,000	Gold Coast	147, Cannon-street.
Wemmer ....G	11¾ 12	12⅞ 13⅛	1 0	10% Nov. '91	1 0 0	55,000	Rand...... .	19, Bury-street.‡†
West Rand ..... . G	3⅛ 3⅜	3⅝ 3⅜	1 0	—	1 0 0	24[illegible],000	Rand.........	8, Old Jewry.
Willoughby's Con	1⅜ 1⅝	1⅜ 1¼	1 0	—	1 0 0	700,000	Mashonald	3, Copthall-bldgs.
Witwatersrand G	8 8⅛	7⅛ 8	1 0	—	1 0 0	250,000	Rand..........	19, Bury-st., E.C.
Wolhuter ....G	7⅛ 7⅜	8 8¼	1 0	10 p c Apr.,'94	1 0 0	130,000	Rand.........	Warnford-court.†
Wolverand.........G	⅞ 1	⅞ 1	1 0	2/- Apr., '94	1 0 0	18,750	Transvaal .	Blomfield House.
Wolverand.........G	—	—	1 0	—	0 18 0	39,021	Transvaal .	Blomfield House.
Worcester ....G	4⅞ 5⅛	4⅝ 4⅞	1 0	15% Apr. '95	1 0 0	90,727	Rand.........	8, Old Jewry.‡
Zambesia Explora.	3¾ 4	3⅛ 3¾	1 0	—	1 0 0	65,000	Transvaal .	13, George-st., E.C.

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

AUSTIN GOLD MINES.—Mr. Pirrie, Chairman of the local board, Melbourne, who is now at the mines, superintending starting the battery, cables as follows:—"Aldridge resigned, no appointment made yet, crushing irregular owing to breakages. Everything is now satisfactory. Expect to clean up about 15th May, plates looking well."

ALASKA MEXICAN.—The following cable has been received:—"Have struck vein 110 feet level, 22 feet in width, assays average $9·77 per ton; have resumed sinking the shaft."

BAKER'S CREEK.—Cable advice has been received from Adelaide that a further dividend (40th) of 1s. per share has been declared, payable there on May 22.

ALASKA TREADWELL.—A cablegram from Alaska announces the clean-up as follows:—"Period since last return, 31 days; shipment of bullion, $61,591; tons of ore milled, 23,039; tons of sulphurets treated, 293; of bullion there came from sulphurets, $19,640; estimated gross expenses for the period, $26,782."

ALMADA AND TIRITO.—The following cablegram has been received from the superintendent at the mine:—"Title in perfect order; transfer deeds registered." An office note states:—"The title referred to is that of the Guadalupe Mines, a property recently acquired."

BAYLEY'S REWARD, No. 1 SOUTH.—A cable, dated 7th inst. has been received by this company's London office that 174 points of rain has fallen at Coolgardie, and that the company's dam contains 380,000 gallons.

BAYLEY'S REWARD NO. 1 SOUTH.—The following cable, dated the 9th instant, has been received by this company's London office from its head office at Melbourne:—"Fortnight's run: 146 ounces, 200 tons."

BLOCK B LANGLAAGTE.—Production for April, by cable: Mill. Stamps running, 70; ore crushed, 8909 tons of 2000 lbs.; gold retorted, 2381 ounces.—Tailings, cyanide process. Tons treated, 5590 tons of 2000 lbs.; gold recovered, 643 ounces.—Concentrates, cyanide process. Tons treated, 156 tons of 2000 lbs.; gold recovered, 316 ounces; total gold recovered, 3340 ounces.

BARRETT GOLD.—April gold return, 433 ounces. Very bad weather prevailed throughout the month, much interfering with the transport service. Prospects are reported favourable for May.

BAYLEY'S REWARD CLAIM.—A cable, dated 7th inst. has been received by this company's London office, that 174 points of rain has fallen at Coolgardie, and that the company's dam contains 30,000 gallons.

CASSEL COLLIERY.—The following cablegram has been received:—"Have declared a dividend of 10 per cent., payable to all shareholders registered on May 31. Close books from June 1 to June 6, both days inclusive."

CAYLLOMA SILVER.—A cablegram has been received from the manager at the mines reporting April production 42,000 ounces fine silver in export ores, 20,000 ounces fine silver in bullion.

CARRINGTON.—The manager cables:—"The Victoria cross-cut on the Carrington side has got a strong well-defined vein. The vertical shaft is being sunk 50 feet on this, and when it is reached, the Carrington will have three reefs to work on."

CENTRAL CHILI COPPER (Panulcillo).—The directors in London have received the following cablegram from their manager at Panulcillo:—"Result of work from April 13 to April 30: Panulcillo Mine produced 750 tons sulphuret ores; ore purchased, including Panulcillo carbonates, 356 tons; coke consumed, 136 tons; 1050 tons of ore smelted; 120 tons regulus produced."

CHAMPION REEF.—The directors have received a telegram from the mine dated May 4 giving last month's return as follows:—"3900 tons of quartz produced 5354 ounces of gold. 1120 tons of tailings produced 291 ounces of gold. Total production for the month 5645 ounces of gold."

CHAMP D'OR FRENCH.—During April battery worked 28 days; crushed 5000 tons, yielding 2400 ounces; cyanide, 4100 tons, yielding 1400 ounces; total 3800 ounces, against 4200 ounces for March.

CHIAPAS.—A cablegram from the mine manager states:—"During April the concentrating mill ran 27 days; 1400 tons of ore were crushed, yielding 56 tons of concentrates. Stamps ran five days; 170 tons of tailings were crushed, yielding 31 ounces of gold." According to an office note, the running of the stamps for only five days in the month was due to breakage of cam shaft.

COLOMBIAN HYDRAULIC.—The directors have received the following cablegram of the result of run No. 201:—"We have cleaned up after a run of 29 days, during which time we have washed 520 hours. The gross returns are $1550. The net profit is £1000."

CROWN REEF.—Results for April: Yield in smelted gold from 120 stamp mill, 6928 ounces. Yield in smelted gold from 120 stamp, cyanide works treating tailings and concentrates produced by the mill, 2994 ounces. Yield in smelted gold from old cyanide works, treating accumulated tailings and slimes, 264 ounces. Total, 10,186 ounces.

CUMBERLAND GOLD.—The directors have received the following cablegram:—"Tailings works recovered 600 ounces from 680 tons at a cost of £320. The estimated value is £1300. Have commenced to stope. The average width of ore is—Level No. 2, 10 inches.—The reef in No. 4 level north is 18 inches wide of very fair quality. At the end of No. 5 level north there is reef 6 inches."

CITY AND SUBURBAN.—Last month's crushing yielded 8648 ounces, against 11,124 ounces for March.

COPIAPO.—Production for April, 1000 tons of about 19 per cent.; estimated profit, about £1800.

DE LAMAR.—The following is the cabled return for the month of April:—"Crushed during the month 3860 tons. Bullion produced in the mill, $72,345; estimated value of shipping ore, $5200; miscellaneous revenue, $910; total produce, $78,455; total expenses, $38,370; estimated profit for the month, $40,085, or at $4·90 to £ sterling, £8180."

DAY DAWN BLOCK AND WYNDHAM.—The directors have received the following cablegram from the general manager at Charters Towers, giving the result of the crushing for the fortnight ending the 4th inst:—"Tons crushed, 858; yield of gold, 558 ounces; approximate value, £1925; fortnight's expenses, £1504. The mill has been interrupted owing to the breakdown of the pumps."

DURBAN-ROODEPOORT.—The following results for April have been received by cable:—"Quartz milled, 7990 tons; 60 stamps; 28 days; 3717 ounces. Tailings treated, 6790 tons; 28 days; 2113 ounces; total, 5,830 ounces."

ELKHORN.—Cabled return for April:—"Mill worked 29 days, and crushed 1038 tons; bullion produced in the mill, $24,345; 38 tons of smelting ore sold, $2812; total produce, $27,157; total expenses, $22,000; estimated profit for the month, $5157, or, at $4·85 to £ sterling, £1063." Bullion produced in the mill for week ended May 4, 8600 ounces.

ELKHORN.—Bullion produced in the mill for the week ending 4th May: 8600 ounces.

FERREIRA.—Copy cablegram received from Johannesburg: Tons crushed 4263; bar gold extracted 4510 ounces; concentrates caught 160 tons; assay value of concentrates 6 ounces 8 dwts. fine gold per ton.—Cyanide works: Bullion produced from tailings 1225 ounces.

FORBES REEF.—A telegram was received from the mines, on May 6th, stating that the result for the month of April is 101 ounces gold.

GOLD FIELDS OF MASHONALAND (Cotopaxi Mine).—The following cablegram has been received from Victoria, Mashonaland, announcing the result of the last month's crushing at the above mine:—"During the month mill worked 21 days, crushed 635 tons, yielded 230 ounces of gold."

GRASKOP.—The following information has been received from the manager at Graskop:—"Struck a new lead quite up to 6 dwts. Cyanide plant in course of erection."

GREAT BOULDER.—The secretary of the Great Boulder Proprietary Gold Mines (Limited) has received the following cablegram from the manager:—"Second clean-up from 128 tons gave total 1289 ounces; this gives a total of 1620 ounces; total amount crushed, dry weight, 161 tons."

GELDENHUIS MAIN REEF.—Result of April crushing:—3323 tons crushed, yielding 1324 ounces; 2150 tons treated, yielding 664 ounces; total, 1988 ounces of gold; profit for the month, £2638. The yield for March was 2006 ounces.

GELDENHUIS ESTATE AND GOLD.—Results for April: A cablegram has been received from the head office at Johannesburg, stating the following results for last month:—"Crushed, 12,900 tons; obtained from mill, 4415 ounces of gold; obtained from tailings by cyanide, 2145 ounces of gold; total, 6560 ounces of gold."

GINSBERG.—1243 tons crushed in April yielding 887 ounces, against 940 ounces for March.

GLENCAIRN MAIN REEF.—Production for April 2195 ounces, profit £7500, 70 stamps, 28 days.

HARQUAHALA.—Cabled estimated return for April:—"Mill worked 12 days. Crushed during the month, 740 tons; estimated gross value of gold produced, $4200; miscellaneous revenue, $500; total revenue, $4700; estimated expenses on revenue account, $4600; estimated expenses on prospecting account, $6100; estimated expenses on capital account, $4000." Mr. Raymond adds:—"Good progress is being made in the erection of the cyanide plant. Nothing new in the mine."

HENRY NOURSE.—Crushing for April: 28 days only; 2086 tons, produced 1540 ounces; cyanide, 1500 tons; produced, 630 ounces; total, 7217 ounces.

HOLCOMB VALLEY.—The following cablegram has been received from the manager:—"May 6. Shovel was started today on first cut.—Vulture Claim. Have sent full particulars by mail 2nd of May." N.B.—It is hoped that results of the first clean up will be received within the next fortnight.

ISLE OF MAN.—The secretary has sold 100 tons of this company's ore (chats) at £8 1s. 6d. per ton.

JOE'S REEFS.—The secretary reports receipt of a cablegram from the mine manager, dated May 3:—"330 tons crushed; yield, 247 ounces gold."

JUBILEE.—Last month's crushings of 4186 tons yielded 2267 ounces gold, and from tailings 590 ounces. The total yield for March was 2238 ounces.

JUMPERS EXTENDED.—The following cablegram has been received from the manager:—"The reef is opening out beyond my most sanguine expectations."

JUMPERS (THE).—Results for April: A cablegram has been received from the head office at Johannesburg, stating the following results for last month:—"Crushed, 10,456 tons; obtained, 4005 ounces of gold; and concentrates equal to 796 ounces of gold; total, 4801 ounces of gold; profit, £5500."

KABOONGA.—The following is a copy of cablegram received from the manager at the mine:—Two machines give 30 and 48 dwts.; south west drive in the upper level dips towards south west suddenly; it is very probable deep ground is very near."

LION (Mozambique).—Cable from the manager, Mr. Niness, received 4th inst.:—"Have struck pay ore in No. 2 drive."

LISBON-BERLYN.—A cable has been received from the manager giving the following results for the month of April:—"Milled 1850 tons (of 2000 lbs.); recovered, 160 ounces; tailings treated by cyanide 2160 tons (of 2000 lbs.); recovered, 800 ounces; total recovered, 960 ounces."

LANGLAAGTE ESTATE AND GOLD.—Production for April, by cable: Mill. Stamps running, 160; ore crushed, 20,155 tons of 2,000 lbs.; gold retorted, 8558 ounces.—Tailings, cyanide process. Tons treated, 17,160 tons of 2000 lbs.; gold recovered, 2779 ounces.—Concentrates, cyanide process. Tons treated, 585 tons of 2000 lbs.; gold recovered, 1866 ounces; total gold recovered, 13,203 ounces.

LANGLAAGTE ROYAL.—The London agents announce receipt of the following cable:—"Production for April, 5725 ounces."

MAY CONSOLIDATED.—The following cable message, dated Johannesburg, May 4, has been received at the office:—"The yield of gold during the past month (April) from the working of 80 stamps was 2322 ounces from 6200 tons crushed. Mill running 17 days, cyanide 7440 tons, yielding 1957 ounces."

MEYER AND CHARLTON.—During April crushed 3931 tons, obtained 2341 ounces of gold. 678 ounces recovered from tailings. Total, 3019 ounces. Estimated profit, £5340.

MONTANA.—By cablegram from the mine the directors are informed that the total output for April was 3200 tons of ore which contained gold, 1960 ounces; and silver, 40,490 ounces. The estimated realisable value of the same is $63,600. Mr. Bayliss reports that the 60 stamp mill will resume operations on the 1st June.

MYSORE GOLD.—The directors have received a telegram from the mine giving the return of gold for the month of April as follows:—5520 tons of quartz produced 4581 ounces of gold; 2925 tons of tailings produced 559 ounces of gold; tailings short from scarcity of water; 1795 tons of tailings (cyanide process) produced 338 ounces of gold; total production for the month 5478 ounces of gold."

MYSORE WEST AND MYSORE WYNAAD CONSOLIDATED.—Tank Block. The mining manager telegraphs on the 3rd instant as follows:—"The mill ran 550 hours and crushed 350 tons of mixed stuff, of which 300 tons were quartz, which yielded 160 ounces of gold. Office note.—Owing to a slight accident to keyway in cam shaft, there was a loss of three days' crushing.

MENZIES' GOLD REEFS PROPRIETARY.—A cablegram received states:—"Friday Deep shaft: Have been obliged to stop sinking because of enlarging underlay; good gold. Selkirk reef widening; good gold. Crusoe underlay good gold; others exempted. Great dearth of labourers owing to Darlot rush."

METROPOLITAN GOLD.—During April crushed 4730 tons; obtained, 1542 ounces of gold; 817 ounces also recovered from tailings; total 2359 ounces.

NEW CHIMES.—Last month's crushings yielded 2856 ounces of gold.

NEW COLORADO SILVER.—The London directors have received the following from their manager in Colorado:—"The important discovery in the silver ore tunnel, previously reported, continues to open up in a very gratifying manner, and it now shows a solid leader of good grade ore, over 6 inches in width. I am getting more convinced that we have struck the lost Coin vein."

NEW HERIOT.—Last month's crushings yielded 5725 ounces.

NEW JAGERSFONTEIN.—A cablegram has been received from the head office of this company at Kimberley, reporting results for the month of April as follows:—"Diamonds estimated at £33,500; less expenses (as per cable), £18,250; decrease of blue, £62 10s.—£18,312 10s.; profit for the month, £15,187 10s." The cablegram adds:—"Heavy rains during month."

NEW PRIMROSE.—"Production for April, 12,085 ounces. Profit, £17,671. 160 stamps 29 days."

NEW ST. AUGUSTINE.—A cablegram from the mine states:—"2600 loads, yielded 110 carats."

NEWHOUSE TUNNEL.—The following cable has been received, dated Denver, 7th inst.:—"The tunnel has been driven during April 145 feet, working one shift. The rock is exceedingly hard."

NIGEL.—Last month's crushing yielded 2025 ounces; cyanide, 1773 ounces; retreatment works, 265; total, 4063 ounces.

NEW CLEWER ESTATE.—Results for April: From mill, working 23 days; crushed, 1803 tons; yielding 686 ounces of gold. From cyanide works: Treated, 1293 tons; yielding, 1216 ounces of gold; total yield, 1902 ounces of gold. Total value, £3851; estimated profit for month, £700.

NEW COLORADO.—The London directors have received the following from their manager in Colorado:—"The important discovery in the Silver Ore tunnel, previously reported, continues to open up in a very gratifying manner, and it now shows a solid leader of good grade ore over 6 inches in width. I am getting more convinced that we have struck the lost Coin vein."

NEW RIETFONTEIN.—During April crushed 3100 tons, obtained 1715 ounces of gold. Cyanide works treated 2926 tons, yielding 628 ounces. Concentrates treated yielded 105 ounces. Total 2448.

NUNDYDROOG.—The directors have received a telegram from the mine giving the return of gold for the month of April as follows:—"2700 tons of quartz produced 3045 ounces of gold. 620 tons of tailings produced 115 ounces of gold. Total production for the month 3160 ounces of gold.

ORION.—Last month's crushings yielded 3070 ounces of gold; from plates 620 ounces; and from cyanide 2450 ounces of gold.

PAARL CENTRAL.—A cablegram has been received from the head office at Johannesburg, stating the following results for last month, April:—Mill: Crushed 5551 tons, yielding 2007 ounces of gold.—Cyanide: Treated 3430 tons, yelding 707 ounces of gold; total 2714 ounces of gold. Total value, £9400.

ORIENT GOLD MINES.—Cable from manager, dated Cairns, Queensland, 6th inst.:—"During the week tunnel has been driven 11 feet; character of rock still unchanged." Manager's letter, dated 13th March states:—"The reef has made a wonderful change for the better, and there is between 5 feet and 6 feet of the finest looking quartz now in the face of the 300 feet tunnel that I have ever seen in the mine."

PAHANG CORPORATION.—The directors have received the following cablegram, giving output for the month of March: "In 13 days of 24 hours each 255 tons of stone were crushed, producing 740 cwts. (37 tons) of black tin; 20 head of stamps running; working costs, $10,250."

PAHANG CORPORATION.—The directors have received advices from Singapore announcing that the mill at their Jeram Batang mines started crushing on the first day of May.

RANDFONTEIN.—Production for April by cable: Mill. Stamps running, 60; ore crushed, 6235 tons of 2000 lbs.; gold retorted, 2925 ounces.—Tailings, cyanide process. Tons treated, 3850 tons of 2000 lbs.; gold recovered, 430 ounces.—Concentrates, cyanide process. Tons treated, 60 tons of 2000 lbs.; gold recovered, 161 ounces; total gold recovered, 3516 ounces.

ROODEPOORT UNITED MAIN REEF.—Crushing for April: 6120 tons, producing 3343 ounces; cyanide, 1129 ounces; total, 4472 ounces; profit, £8100.

ROBINSON.—The production for April was:—Mill: 70 stamps at work; 9215 tons of ore crushed yielded in smelted gold 8789 ounces; from concentrates (by chlorination), 1203 ounces; from tailings (cyanide process), 2012 ounces; from own ore, 12,004 ounces; from concentrates bought (by chlorination), 2093 ounces; total gold recovered, 14,097 ounces; profit for month, £29,000. The total for March was 14,142 ounces, and the profit £30,000.

ROTHERY BLOCK.—The following cablegram has been received from this company's manager at Johannesburg:—"Struck leader, western boundary, resembling Randfontein leader. Pannings give excellent results."

ROYAL SOVEREIGN.—A letter has been received from the Bank of Australasin stating that the transfer of the property has now been completed.

SAN SALVADOR SPANISH IRON ORE.—The s.s. *Amity* sailed from Santander on Tuesday with a cargo of this company's ore for Middlesbrough.

SHEBA.—The following cablegram has been received from the general manager for the month of April:—3000 tons (2000 lbs.) of tailings treated, yielding 1135 ounces."

SILVER KING.—The following cable has been received from Mr. Edwards, manager at the company's mines:—"During April mill working 27 days and nights, crushed 2000 tons. Produced 20,000 ounces silver. Shipped 19,000 ounces. Expenses $10,700. Silver on hand 7000 ounces."

SALISBURY.—Last month's crushing yielded 2100 ounces against 1650 ounces for March.

SAM'S WEALTH OF NATIONS.—The secretary states that a cablegram has been received from the superintendent of the Plutus Consolidated to the effect that "gold has been struck in the tunnel," where they were driving to cut the rich reef recently discovered on the surface.

SHEBA.—The following cablegram has been received from the general manager:—"Testing machinery since April 17. Rock breaker working. We propose to start crushing about the end of this or beginning of next week."

STANHOPE.—Last month's crushing yielded 1000 ounces.

TASMANIA CROWN SILVER.—Cablegram from the manager, dated May 8:—"The north drift. The workings show considerable improvement; we think this lode will yield an orebody of considerable value."

TRANSVAAL GOLD EXPLORATION AND LAND.—The directors have received the following cablegram:—"Ore mined 2900 tons, ore treated 2775 tons, yielding 1700 ounces, tailings treated 1875 tons, yielding 1650 ounces; total, 3350 ounces."

VICTORIA GOLD.—The following cable was received 7th inst.:—"280 tons crushed, yielded 506 ounces gold."

VAN RYN.—Result of 26 days' working Van Ryn with 50 stamps:—From 4200 tons, 2200 ounces; from 6000 tons, 1000 ounces (cyanide works). Total yield for the 26 days, 3200 ounces, against 3108 ounces for March.

VAN RYN WEST.—It has been decided to erect 80 stamps on this company's property, and the same are being orderd.

WAIHI.—Bullion return for 28 days ending May 4, £7500, from 2200 tons.

WEMMER.—The directors are in receipt of cable advising result of work done during April:—"4816 tons crushed, yielding 3687 ounces of gold. 40 stamps working 28 days, and from cyanide plant 4250 tons treated, yielding 976 ounces of gold. 212 tons concentrates caught, assaying 82 dwts. (4 ounces 2 dwts.) The additional 10 stamp mill commenced working on May 1."

WOLHUTER.—Crushing for April: 3350 tons, produced 1515 ounces; tailings produced 600 ounces; total, 2115 ounces.

WORCESTER EXPLORATION.—Last month's crushings yielded 1965 ounces of gold, against 2029 ounces for March.

CORRESPONDENCE.

*** We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.*

CAN DIAMONDS BE MANUFACTURED?

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—With reference to a paragraph on the above subject in your issue of May 4, I beg to say that small pieces can be made to all appearance resembling a diamond, but immediately they are put on the wheel to cut or polish they go to dust. Although it has been argued that in the laboratory the processes of Nature can be imitated I am inclined to believe they cannot, though it may be possible to some very small extent. The force required to harden the diamond is greater than can be exerted by any human agency. I think it is but just that I should ask you to publish this, that no injury may be done to that very large industry—the diamond trade. It has been admitted by all those who have endeavoured to manufacture diamonds that immediately great force is applied, an explosion, in all probability, occurs, to the damage of the surroundings.—I am, Sir, yours faithfully,

EDWIN W. STREETER,
Streeter and Co. (Limited).

18, *New Bond-street, W.*

GOLD MINING, &c., IN SOUTH DAKOTA.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—With reference to a letter on the above subject from Mr. T. A. Rickard, dated February 20, and appearing in your issue of April 27, I am instructed to state that the Institution is not responsible for the opinions of, or the expressions used by, its individual members.—I am, Sir, yours obediently,

ERNEST H. PERRS,
Secretary Institution of Mining and Metallurgy.

Broad-street House, E.C., May 8.

THE CRESCENT GOLD MINING COMPANY (LIMITED).—We hear that a company with the above title has been privately subscribed, with a capital of £20,000 in 20,000 shares of £1 each. From a prospectus that has been sent to us it appears that the company, which is to be under the management of Messrs. John Taylor and Sons, "has been formed to acquire and work the 'Crescent' and 'Orlando' Mines, situated on a branch of the Ovens river, in the colony of Victoria, near the town of Bright. The Crescent property comprises three gold mining leases, containing an aggregate area of 87 acres 1 rood 5 perches; the Orlando Mine is 29 acres 1 rood 23 perches in extent." Mr. Samuel Gifford speaks highly of the property, which he has carefully inspected, and the results of prospecting work appear to have fully confirmed his view.

VAN DIEMEN'S LAND COMPANY.—The annual general meeting was held on Thursday at 31, Finsbury-circus.—Mr. Charles George Hale, who presided, referred to the excellent prospects the company had, provided they could carry out an extension of the Emu Bay Railway to the western silver fields of Tasmania. The capital required would probably be £250,000, and hoped ere long to approach the shareholders on the subject with definite promises of support assuring the successful carrying out of the undertaking. The report was adopted.

REPORTS FROM THE MINES

Continued on Page 2 of Supplement.

SOUTH CONDURROW.—May 8:—We have suspended all operations at the bottom of Marshall's shaft, and have to-day stopped the pumping engine, until the water rises to the 123 fathom level, when we shall pump to supply the tin dressing floors. We have begun to drive the 40 fathom level east of engine shaft.—(Signed) Wm. Rich, Fred. John Rich.

WEST KITTY.—May 9: The 108 fathom level west is worth £7 per fathom. The 94 fathom level west is worth £7 per fathom. The 84 fathom level west is worth £14 per fathom. We have cleared the 60 fathom level west and commenced to drive at this point. The 60 fathom level east, south of slide, is worth £12 per fathom. The No. 2 rise, east of crosscut, is worth £10 per fathom. The 60 fathom west, south of slide, is worth £12 per fathom. The 50 fathom level east is worth £7 per fathom. The 50 fathom level west is worth £8 per fathom. The stopes and tribute pitches continue to yield the usual quantity of tin at Tuesday's ticketing. We sunk over 5 fathoms at Thomas's shaft last month. This shaft is now down 25 fathoms below the deep adit. We let the men on Saturday last to sink £25 fathoms at £12 10 per fathom.—(Signed) Joel Hooper, John Williams.

CHIAPAS.—Mine report March 15 to 31: Providencia Aver rise No. 1. Driven 8 feet, total 23 feet; in ground sufficiently good to hand-sort the ore.—Aver stope. Carried forward towards No. 2, but running very poor, assay 3 dwts. 12 grains gold, 3 ounces 12 grains silver, and 1·24 per cent. copper.—Taylor main extension. Driven 5 feet, total 615 feet. While no improvement in appearance, assays show 5 dwts. gold, and 1 ounce 5 grains silver.—Santa Fe Hill drift, No. 3. Driven 6 feet, total 59 feet; no change.—Taylor copper creek. Driven 40 feet, total 180 feet. Struck same class of rock as in Taylor extension. We have, therefore, suspended driving here to await developments in latter drift.—Sylva crosscut No. 2. Driven 4 feet, total 98 feet; no change.—Sylva crosscut No. 3. Driven 10 feet, total 19 feet. Cut through from dyke into wollastonite formation, a slight trace of ore on the immediate contact, mostly copper pyrites.—Pine Creek No. 1. Driven 8 feet, total 25 feet. Struck water strongly in three drill holes; have partly plugged back, and suspended work for the present to wait and see if water will drain itself out. Both in the Providencia and San Francisco drifts water has disappeared, we therefore presume we have not struck water from the river, but from the hill on opposite side. Fortunately we had a second spare pump in position against such an event, or we should have been drowned out, the two pumps only just being able to hold the water; one pump is now sufficient, showing a decrease therefore in the quantity.—Pine Creek No. 2. Driven 18 feet, total 34 feet; still in dyke rock.—Santa Fe winze, crosscut north west. Please note in future we shall call this Pine Creek No. 3. Driven 6 feet 6 inches, total 36 inches. Cut through the ore left standing in face, but it proved to be only some 6 inches wide and poor, 2 dwts. in gold, 8 ounces 9 dwts. silver, and 1·35 per cent. copper. Later on we shall come back and drive on this.—Mina Antigua. Driven 13 feet or 36 feet in all from old shaft. We have, however, suspended this again, and find nothing encouraging.—Providencia No. 1 west. Have cut into side preparatory to sinking a winze.—Extraction, Old Providencia. Extracted 416 tons, assaying 17 dwts. 12 grains gold, 8 ounces 12 grains silver, 5·69 per cent. copper. Improved in quality, but not so well formed as formerly, though still very good.—Santa Fe stopes. Extracted 208 tons, assaying, west stopes, 11 dwts. gold, 9 ounces 18 dwts. silver, and 5·69 per cent. copper. East stopes, 10 dwts. 12 grains gold, 6 ounces 12 dwts. 12 grains silver, and 3·93 per cent. copper.—Taylor No. 3. Extracted 32 tons, assaying 14 dwts. 12 grains of gold, 7 ounces 12 grains silver, and 4·48 per cent. copper; improved both in quality and appearance, though narrower.—Aver rise No. 1. Sorted out 105 tons, assaying, unassorted, 5 dwts. gold, 4 ounces 7 dwts. silver, and 1·97 per cent. copper. During the past month we have been very short of labour, and continue so. After Holy Week we hope to get an improvement in this respect.

CONSOLIDATED GOLD MINES OF WESTERN AUSTRALIA.—Information has been received from the managers on the following properties, all of which belong to the Consolidated Gold Mines of Western Australia (Limited), Coongan, Peawah, Peawah Extended, East Mallina, East Mallina Extended, West Mallina, Great Chirritta Lode (Nicol), Westward Ho (Nicol), Lord Byron (Nicol), Oriental (Nicol).—Peawah. The manager reports as follows:—Since writing last I have been getting already for starting to drive on the two reefs. I am sinking on the main reef 120 feet to the east of the main shaft; the stone is improving as it goes down as it does also in the main shaft. I have also sunk 10 feet more in the reef to the north of the main reef, this reef was sunk on 30 feet when it broke up into about 20 leaders. I sunk 10 feet on it and it came together again and prospects very well. Within next three months I shall be able to raise a large quantity of stone, and if the prospects continue as at present I certainly consider the Peawah lease second to none at Mallina. Work done since last writing: Sunk 10 feet on main reef, timbered top of main shaft and erected windlass, sunk 10 feet on No. 2 reef.—East Mallina. Mr. Charles Marsack reports under date March 3, as follows: The reef that I advised Mr. Martin to drive on I do not think is the Mallina main reef, but another reef that will junction with the Mallina reef. It carries very fair prospects of gold, and from its south-east strike should be easily found in the east—Mallina Extended (belonging to the Consolidated G. M. of W. A., Limited), where I started a shaft. This reef is a great advantage to East Mallina and East Mallina Extended, as it will interest both, and comprises a strong body of stone.—East Mallina. Mr. Charles Marsack reports under date March 19, as follows:—I went over the Mallina leases a few days ago with Martin. The reef I started on in the East Mallina looks well, and should shortly be picked up in the East Mallina Extended.—Peawah. The manager reports under date March 3, 1895, as follows:—The work now in progress on the Peawah leases is confined to the surface. I shall be driving on the main reef in an easterly direction, and on No. 2 reef also east, and sinking on main reef 120 feet to the eastward of present main shaft, so that shortly I shall be raising quartz from three shafts.—Main shaft and No. 2. I consider the stone payable if it continues as at present.—The shafts 120 feet to the east of main shaft. I am only down a few feet on the reef, so cannot yet form a fair estimate of its value.—West Mallina. Mr. T. H. Martin reports under date of March 19th, 1895, as follows:—I am still driving to the north in the West Mallina, and am 20 feet in with it.—Augusta. Result of second mill test 78 ounces for 75 tons; have struck water in wells, removing machinery. Mine has improved.—Peawah. Work is progressing satisfactorily.—East Mallina Extended and West Mallina. These properties are being opened up to the best advantage. Awaiting the arrival of machinery.—Nicol properties. Comprising the Nicol Gold Mine, the Great Chirritta lode, Lord Byron, Westward Ho, and Oriental. The following has been received from a gentleman sent out to Western Australia about two months ago to report on the Nicol properties belonging to the Consolidated Gold Mines of Western Australia (Limited): "I have carefully examined the property five shafts down to the water level. I consider it a most valuable property The situation of the property is all that can be desired. Fuel and water both abundant. Gold can be seen throughout the mine; ore in shaft is improving as it goes down. It is a well managed mine.' The machinery for the Nicol properties was shipped some time, and advices are daily expected announcing its arrival to the colony.

NEW PRIMROSE.—The monthly report for March from the manager of the above company states that the anticipations as to the advantages which would ensue from the increase of stamps and other machinery have been more than realised.—Mining. Operating costs appear at 17s. 3d. per ton as against 19s. 9d. for the month of February, or a reduction in our costs per ton of 2s. 6d. The causes of this reduction are due to our increasing the capacity of the mill from 20,000 tons per month to 25,000 tons, and working the large main reef west of main vertical shaft by machine rock drills, which, owing to its lying directly over the middle reef, we are able to mine it for from 5s. to 6s. per ton. The ore, which is low grade, running from 5 to 6 dwts. per ton, leaves us a good profit over and above all costs; and, as we can work it to a much better advantage now than we could after the levels are abandoned and caved in, I strongly recommend that we continue mining this reef. There is an abundance of ore throughout the mine, and the stopes are looking well. A higher grade can easily be maintained by leaving the main reef and working only the middle and north reefs; but this I do not advise, for reasons stated above. Profit from mining and milling during the month (including development) was £8766.—Cyanide. About 14,877 tons of tailings were treated by the cyanide process at a cost of 5s. 4d. per ton, yielding 3207 ounces smelted gold. The works are running along nicely, but owing to our increased stamp power, I advise you to have three more settling vats erected immediately; the cost will not exceed £800, and the benefit derived will soon pay for this expenditure. The profit for the month from this department was £6455.—Total profits. The total profits from mining, milling, and cyanide amount to £15,221.—Development, The development for this month amounted to 1156 feet, developing 28,900 tons of ore, or 4815 tons in excess of crushing, owing to our drives running through larger reefs during the month, developing much more ore per foot. I have calculated the footage at 25 tons per foot. The fifth level Moss Rose drives are opening up well, and is also connected to fourth level on the east side of shaft. The tenth level Primrose station is nearly finished, and drives will be started next week to connect with winzes from 9th level, which are already down from 30 to 60 feet. The north reef recently struck at 9th level east near the main shaft is opening up exceedingly well, the drives both east and west, cutting through 7 feet of reef, assaying from 15 to 20 dwts.—General. There is nothing of a general nature to be reported on beyond the fact that everything is progressing satisfactorily. The suggestion contained in the foregoing report has been adopted by the company, and the manager has been authorised to proceed working the main reef, which increases the life of the mine by eight or ten years. The necessary authority has been given for the additional cyanide vats suggested by the manager. By a cable received on the 8th inst. the production for April is given as 12,085 ounces. Profit £1671. This is an increase of 670 ounces, and £2450 profit on the month of March.

ORITA.—H. J. Prender, March 15: Run No. 86. We had a break at Medina, but it was not serious. We have been washing at the branch, but we shall not be able to get off as much gravel as during the last run from here (run No. 84), as we have more pipeclay to clear away. You can imagine how I am hampered by the continuance of the revolution. I have, at very little sacrifice, managed to keep all the men. If this run shows much of a decrease on the last from the same section of the mine, do not consider it a falling-off in the value of gravel, but attribute it, at least in part, to the ground cut not being well cleaned down. I mean to clean up about the 28th inst., and get the water on again. When all is quieter we can have the cut cleaned down as usual.

PESTARENA.—May 3: In the 55 east on No. 1 lode, the lode is 1 metre wide, carrying a little low grade ore on both walls. The 90 west yields 3 tons per fathom at 1 ounce. The lode averaging 30 centimetres in width, and having a most promising apearance. The No. 5 lode in the 140 west is 70 centimetres wide mixed with small veins of pyrites, yielding occasionally good stones of ore.—Crosscuts. The 70, 90, and 140 crosscuts are without any change of importance.—Stopes. On Caunter lode. At the 55 east the stope gives 2 tons per fathom at 18 dwts., and a stope at the 120 yields 3 tons per fathom at 18 dwts.—On No. 1 lode. At the 55 east two stopes yield 5 tons at 1 ounce 5 dwts., and 9 tons at 2 ounces respectively. At the 70 east one stope yields 4 tons at 1 ounce 10 dwts., and another 10 tons at 2 ounces 10 dwts. A stope at the 70 west gives 3 tons at 1 ounce 10 dwts., and one at the 90 east 4 tons at 1 ounce.—Stabioli. The Anna level north has been temporarily suspended. The crosscut west from Morghen adit has passed through a graphitic head of mountain, but otherwise shows no change.—Kint. The end of the Goja adit is apparently very near the lode. The end east from this adit has produced about 1 ton of ore, and a trial will now be made on the western side. The Oro Secco end west has been suspended for the present, and a trial crosscut driven 2·30 metres south, which will be continued for a distance of 6 metres. At Pozzone the water has been re-forked to a depth of 16 80 metres.—Machinery. This has been kept in its normal state of repair, and continues to work satisfactorily.—W. Henwood Trelease, T. H. Mess.

QUEEN'S BIRTHDAY UNITED.—We have received the following mine report from Mr. Barton, the company's mine manager at Dunolly, dated April 1:—Since your last meeting repairs to the machinery at No. 1 shaft have been completed, and pumping and bailing resumed. Your machinery is now in first-class order, and working well, saving a large percentage in firewood. The water is down 80 feet below No. 4 level, and if nothing occurs to stop operations I believe by this day fortnight to have the water out below No. 6 level. Your pumps are working on an average of 10½ strokes per minute. Have cut through the road and put in a culvert to carry off the flood waters. No. 2 shaft put up and retimbered 73 feet for the fortnight, making a total of 157 feet since starting. We have now 48 feet more to do. This will be very nearly completed this week, so that by the end incoming fortnight I shall be raising stone from the shaft and go on sinking at the same time. No. 3 shaft opened out and driven east to an old drive. There was plenty of stone, but no gold, rose up 10 feet, and struck old ground again; opened out west on the lode we struck in sinking shaft; will try this before coming up higher in the shaft to open out No. 4 shaft. Repaired and laddered this, put up whip, and started two faces on stone north and south. Have one prospecting drive going east; will soon get a trial crushing out of this, the lode being 8 feet wide. Have let a block of ground at the far north of the mine to Barker and party; they are now raising stone for the battery. This party, if successful, will be the cause of others taking up blocks on the property, and much to the company's interest.—Preverance. The trial crushing of 75 tons from here has not proved payable, having yielded only 1 ounce 6½ dwts. due of bar gold.—W. Barton, mine manager.

SHEBA.—The following report has been received from the general manager for the month of March:—Mine. During the month of March some very good ore has been stoped from No. 7 level, but owing to the mill being idle very little stoping was done most of the work being development.—No. 5 level. West drive extended 37 feet. No. 2 south crosscut 14 feet. No. 7 level east drive extended 6 feet. West drive extended 2 feet 6 inches. No. 33 winze sunk 27 feet. Low level tunnel driven west 50 feet, total 1541 feet.—No. 8 level. No. 34 winze sunk 30 feet.—No. 9 level. No. 32 winze (west incline shaft) sunk 25 feet 6 inches in rich ore. East incline shaft sunk 15 feet 6 inches. Edwin Bray shaft sunk 14 feet, making a total of 114 feet, and at that depth connected with the Sheba No. 5 level. Edwin Bray No. 2 north crosscut driven 20 feet.—Annie's Fortune. Quarry drive west (hanging-wall) driven 49 feet. Quarry drive west (footwall) driven 52 feet. Tunnel extended 8 feet. Tunnel south crosscut No. 1 driven 23 feet. Tunnel north crosscut No. 1 driven 9 feet.—Oriental block. Good Hope shaft sunk 61 feet. No. 5 level driven east from Good Hope shaft 25 feet. Prospecting is being continued on the Nil Desperandum and the Nil Desperandum North, Nos. 1 and 2 blocks. Some very good samples of quarts have been found.—Electrical. Electrical plant No. 2. The erection of this plant is nearly complete. The cable is in place, and the damage done to it by the late flood has been repaired.—Mine lighting. Workmen are still engaged in putting in this plant.—Tailings. Cyanide works. During the month the works have been run at half their actual capacity.—New works. Everything possible is being done with a view of hastening the completion of the new mill, &c. The mill is practically finished; the crusher-house is getting along well towards completion. A double line of track is being laid from the mouth of the low level tunnel to the crusher-house, and the water services to the new mill is being pushed on as rapidly as possible.

TOLIMA.—The directors have received advices by the mail of the 9th May, 1895, from their mines, of which the following is an abstract: Frias estimated February Returns (120 tons) silver, valued at 27d. per oz., £3,892 4s. 6d.; ditto Cost, £3,238 4s. 9d.; ditto Profit, £653 19s. 9d. The Underground Agent reports, 85 fms. 5 ft. 10 in. of ground expended, of which 62 fms. 5 ft. 6 in. were productive, leaving 23 fms. 0 ft. 4 in. of unproductive ground. The Superintendent, in referring to the reduced rate of profit shown for February, due to a falling off in the grade of the mineral, then under extraction, states, however, that the mineral cut in the lower workings seemed to be improving. The political disturbance which prevailed in the Republic at the date of the Superintendent's letter had interfered with the native labour, the recruiting for the Government forces not only having taken many hands, but rendered the attendance of those left irregular on account of their fear of being also impressed; still he reports that he has been able to continue the work uninterruptedly in all the departments of the establishment, though not without difficulty and in certain instances only on a reduced scale. Engine Shaft.—This was sunk 12 ft. by ten men at 240 dols. per fm., thus being 27.6 ft. as total depth below the sole of the 140 fm. level, and the branch upon which it was sunk has continued to yield some good portions of high-grade mineral. For current month sinking is suspended, and the men are put to cut ground for the "tip plat," at the 140 fm. level, which we hope to finish by the end of the month, and also bring down the skip road to the 140 fm. level. 140 Fathom West End North Branch was driven 14.5 ft. by two men at 75 dols. per fm., and the lode continues poor. 140 Fathom East End was driven 11.3 ft. by two men at 75 dols. per fm., thus being 243.3 ft. as total east of the West Winze; and the lode, although strong and well defined, yet remains poor. 140 Fathom East End North Branch was driven 9.6 ft. by two men at 85 dols. per fm., and is without change to note. 140 Fathom East Back Stope was stoped 53 ft. by six men at 35 dols. per fm., and yielded 2½ tons of mineral per fm. 140 Fathom East Back Stope No. 1 was stoped 6 ft. on company account, and yielded 2½ tons of mineral per fm. 130 Fathom West End was driven 21.8 ft. by two men at 63 dols. per fm., thus being 420.7 ft. as total west of the West Winze, and the lode remains poor. 130 Fathom West Back Stope No. 1 was stoped 37.8 ft. by four men at 23 dols. per fm., and yielded 1 ton of mineral per fm. 130 Fathom West Back Stope No. 2 was stoped 36 ft. by four men at 30 dols. per fm., and yielded 2 tons of mineral per fm. 130 Fathom East Back Stope No. 1 was stoped 26 ft. by four men at 35 dols. per fm., and yielded 2 tons of mineral per fm. 130 Fathom East Back Stope No. 2 was stoped 27.6 ft. by four men at 30 dols. per fm., and yielded 10 cwts. of mineral per fm. 130 Fathom East Cross-Cut North was driven 13.9 ft. by two men at 100 dols. per fm., and has passed through some slight pipes of vein stuff. 120 Fathom West Back Stope No. 1 was stoped 5 ft. on company account, and yielded 1½ tons of mineral per fm. 120 Fathom West Back Stope No. 3 was stoped 32.5 ft. by four men at 25 dols. per fm., and yielded 10 cwt. of mineral per fm. 120 Fathom East End was driven 3.7 ft. during a part of the month, and on company account, and is for the time being suspended. 120 Fathom East Winze No. 2 was sunk 11 ft. by eight men at 140 dols. per fm., thus being 57.5 ft. as total depth below the 120 fm. level. The lode continues broken, and it yielded 1½ tons of rather low grade mineral per fm. 110 Fathom East Back Stope No. 1A was stoped 9 ft. by two men at 30 dols. per fm., and yielded 10 cwt. of mineral per fm. 120 Fathom East Back Stope No. 2 was stoped 49.2 ft. by four men at 24 dols. per fm., and yielded 1½ tons of mineral water per fm. 110 Fathom East End was driven 5 ft. by two men at 60 dols. per fm. thus being 878.7 ft. as total east of the engine shaft, and the lode is harder to work, and yet poor. 110 Fathom East Bottom Stope was stopped 15.6 ft. by two men at 23 dols. per fm., and yielded 10 cwt. of mineral per fm. 110 Fathom West Cross-Cut to North Branch was driven 5 ft. by two men at 150 dols. per fm., and it has intersected the North Branch, which yields 15 cwt. of mineral per fm. 90 Fathom East End was driven 13.5 ft. by two men at 60 dols. per fm., thus being 1034. 5 ft. as a total east of the Engine Shaft, and the lode is without change to note. 90 Fathom East Bottom Stope was stoped 24.9 ft. by two men at 30 dols. per fm., and yielded 10 cwt. of mineral per fm. 90 fathom East Back Stope No. 1 was stoped 17. 3 ft. by two men at 23 dols. per fm. It is situated from the east end of the 90 East rise, and yielded 2 tons of mineral per fm. 80 Fathom East Stope was stoped 26.6 ft. by two men at 26 dols. per fm., and yielded 2 tons of mineral per fm. Shallow Adit was driven 17.2 ft. by four men and a boring machine at 95 dols. per fm., thus being 227.7 ft. west of the Cross-cut, and it is without change to note. West-End from New Cross-Cut was driven 10.85 ft. by two men at 60 dols. per fm., and is unchanged. REAL DE FRIAS.—35 Fathom West End was driven 27.5 ft. by four men at 45 dols. per fm., and the lode remains poor. 35 Fathom East End was driven 19.5 ft. by four men and a boring machine at 68 dols. per fm., and the lode is without change.

THE GREAT DE KAAP (MOODIE'S) GOLD FIELD, LIMITED.

LAST week we published some information concerning the property owned by the above-named company, particulars of which will be found in our advertising columns. A further report by Mr. Louis P. Bowler has come under our notice, which bears so pointedly upon the condition and prospects of the property that we make no apology for further quotation.

Having described the great success which has attended the working of the neighbouring mines, Mr. Bowler, passing on to deal with the reefs on the property, says:—"On the western side of Rosetta Creek there are three distinct layers of a quartzite reef which run from the adjoining Ivy and Pioneer properties, and it is my opinion that the richest part of the United Pioneer reefs will be found in the Great De Kaap ground. It is also the general opinion in the district that the Sheba reefs pass through your property. I have myself traced the Sheba formations in this direction, and on my last visit to Moodie's, after a careful inspection, I am of opinion that the Pioneer and United Ivy reefs traverse the Great De Kaap property."

Mr. Bowler endorses fully Mr. Alford's remarks as to the geological and general features of the property.

Generally concluding, Mr. Bowler says:—"Four tunnels have been driven on the property. The longest, 400 feet, has 150 feet to drive to cut the Pioneer reef. Altogether some 1120 feet of driving has been done. Since my last inspection I understand that the further development work suggested by Mr. Alford has been carried out to a very considerable extent, at a very large expenditure, with the result of opening up the mine in a thoroughly practical manner. I consider the Great De Kaap an excellent and valuable gold mining property. It is surrounded by proved and paying mines, three well-known reefs intersect it, and should return large and permanent dividends to its shareholders."

The latest quotations of the Great De Kaap fully-paid 5s. shares are 5s. 6d.—6s.

MOODIE'S FORTUNA.—The following is an extract from a report on the Moodie's Fortuna Mine made by Mr. J. Milbourne Watts, manager to the United Ivy Reef Gold Mining Company (Limited), dated March 29:—At your request I again visited the Fortuna Mine. After care examination I advise the sinking of a winze from No. 1 drive to connect with the low level adit, at a point 25 feet to the west of No. 1 winze. This winze should be sunk in two lifts of 90 feet each, and the vein followed down. A short crosscut will be necessary from the main adit to the north to hole to winze. At the same time the shaft No. 1 should be sunk also to connect with the main adit. A large area for stoping will thus be laid open. I am pleased to note that the mine is opening so well, and more than justifies my opinion expressed in former reports. Four veins are now exposed, and there are sound indications of more further north yet.

LION (Mozambique).—The manager, Mr. Niness, reports under date March 23 last:—No. 1 drive is penetrating ground showing every indication of close proximity to a reef. As you are aware, a slight alteration in the dip of the reef will make a difference in the time of striking it.—No. 2 drive: I am surveying to crosscut to this reef, which I have every faith we shall find rich. (N.B.—Mr. Niness' cable of the 4th inst., read as follows: Have struck pay ore in No. 2 drive). Nothing so far has altered my faith in the genuineness of the property, and the work we have done up to date has materially strengthened it.

FRONTINO AND BOLIVIA.—Mr. Eustice's report on the mines: La Salada, March 7. Silencio. So little work has been done that there is nothing new to report. The ore extracted has been principally from the No. 5 level and stopes. No sinking has been done nor very little driving in the several levels. Exploration work, for the time being, must remain dormant until we have a full set of miners.—La Salada. In the No. 2 crosscut we have advanced slowly, but most of the miners have been at work in the stopes. There is nothing new to report. —Cordoba. In the No. 8 crosscut very little has been done. In No. 7 some good ore has been extracted. Owing to the dry season only eight stamps are at work. Tigrito. This mine remains poor. The continuation of the cross cut still shows some mineralised ground, and is encouraging. The level west is in a small lode, and very poor, but is being advanced as much as possible.—Marmajito. This section has improved, and gives appearance of becoming a mine. The "diaros" show an increased amount on the previous month. The mineral opened should be sufficient to maintain the Marmajon mill for some time. The following is from Mr. Eustice's half-yearly report:—Steady progress has been made in the exploration of ground and the extraction of mineral, driving, sinking, and rising, &c., and the result shows a fair quantity of work done beyond any previous six months. An unusual amount of construction and resuscitation work has been effected, which have swollen the expenses enormously; however, these works are so done that they will require nothing of repairs for years. In the mines more than usual attention has been given to extra exploration work for the benefit and advantages of increasing the crushing capacity at the mills wherever power can be obtained.—The Mines.—El Silencio. The main shaft has been sunk 35½ feet, which, compared with any previous half-year, can be considered as fair. There have been no serious drawbacks, which would mainly be caused by breakdowns at the Pocuné ditch, nor has anything of importance occurred to deter this work, consequently, the extra amount sunk above the previous six months. The shaft is now 500 feet from surface, and sinking will be continued at once after a crosscut at this depth has been driven sufficiently not to interfere with the shaft work. The south part of the mine has been the most productive for mineral, and the quality, at periods, exceedingly good, especially in the last months of the year; and it is satisfactory to be able to report that this feature still continues, and that it is likely to do so, from the appearances it presents at the time of writing. As this mine is the largest and the most important, I refer you to the plan in making the following details:—In No. 6 level south the principal work has been done in sections H, I, R, 11, 12, 18. This lode has maintained its general characteristics everywhere, and is easily driven through, the quartz being friable, and the walls firm and hard. In this level north the lode is split into several branches, and thrown in all directions by a crosscourse, sections H, I, R, 14, 15. A considerable amount of exploration has been done in this disordered ground, but without much benefit; but to expedite the recovery of mineral in this locality, winzes have been commenced in the lode in the upper levels further north, and when they reach the depth of this level (No. 6 north) a level will be driven back southward, to discover the effect produced by the crosscourse mentioned, in its entirety. The No. 5 level south carries fair mineral, although at periods during the half-year it has been irregular, but appearances have always been alluring and attractive, so that the work has been carried on vigorously to discover what was ahead, sections H, R, 5, 6, 7, 8, 9. The stoping done is in sections R, 11, 12, 13, and the mineral produced has been good, the lode being composed, generally, of a friable quartz mixed with felspathic granite, and the pyrites regularly scattered through it. This level north has been driven in a tentative way, and has resulted in opening up a small vein, which is apparently the main lode, but this cannot be accurately ascertained until more work has been done in the winzes started further north, as aforementioned. In this level there is at present a rich underhand stope, and in virtue of its appearance and richness in pyrites, there is no doubt that the lode in the north ground will again form itself into its general characteristic state, after having passed the disorganised and entangled rock which has so split it up. The stope mentioned is in section H R, 15, 16, 17. In No. 4 level south, there is very little to be reported, its advance is kept on vigorously in an explanatory way, and north the lode has been poor for a considerable period. In the Bolivia crosscut a small formation was cut through, but has not been worked upon, as circumstances did not exact it. However, it is intended to test it at some future time. No. 3 level south is in fair ground and has advanced considerably, so much so, that the time will soon arrive to consider some means of ventilation from the surface. The stopes above this level have yielded well. The lode is large, and although mixed with granite, the whole mass between the walls is sent to the mills, with the result of a fairly good return regularly.—La Salada. In the sinking of the main shaft there have been several inconveniences, and, therefore, it has not so far advanced as was hoped for. Being dependent entirely on the Pocuné water for the pumping, any stoppage, however short, fills the shaft with water to the extent that the miners cannot work, and repairs to the ditch, requiring 12 to 18 hours, have caused suspension of work for four or five days. To remedy this, it would be advisable to put in larger pumps to cope with the water under such circumstances. The principal portion of mineral extracted during the half-year has been from the Manto or flat lode; and although poor generally, it pays to extract and crush, its nature being friable, and, therefore, easily mined. This lode is larger everywhere yet opened on, very flat (in some points it is quite horizontal), carrying abundant impregnations of massive pyrites. The work done on it is shown in sections E, F, G, H, I, 13, 14, 15, 16, 17, 18. The No. 2 crosscut is advancing fairly, and as soon as the main lode is intersected and opened, the flat lode will be abandoned until such period as the new mill shall have the increased number of stamps that are intended to be added some time in the near future. The advances made on the main lode, north and south, have shown up but little to advantage, and at present are suspended, but only temporarily so. Everything has been done to facilitate the work here, so that the expenditure should be as little as possible, for the reason of the poverty of the mineral in the flat lode, and also to spend as much as could be permitted in exploratory work, without incurring excessive expenditure in the establishment. After the lode has been cut in in the shaft, and levels commenced, there will be four drivages on the main lode, from which stopes can be opened, and ample quantity of mineral broken of good quality, unless the lode should be found under unfavourable conditions, which is not likely to be the case. Added to the expenses of this mine must be mentioned the retimbering of the adit level and such footways as are in general use, such expenses having been unavoidably forced on the company through the unsystematic and injudicious practice of leasing here in previous years. — Cordoba. Owing to the prolonged period in driving the No. 8 crosscut, this mine has been worked as means best afforded to keep the mill going with mineral. The crosscut mentioned has been driven speedily, considering the hardness of the rock to pass through, and enough drivage has been made to intersect the lode, provided it maintained its dip in the shallower levels; but it is evident that it is somewhat more vertical at this point. Some small veins have been passed through, one being particularly rich but small; still it is intended to work it when the main lode is opened and works on it are thoroughly established. Curiously enough a lode has been passed through formed of two veins, having a division of clay slate between them, but dipping quite opposite to the main lode, and it will probably make a junction with it (main lode) eventually. A sketch to better illustrate this is enclosed, which shows these two veins as they are now seen, and their probable positions below. The main lode should be met with soon, as the ground, now being driven in, indicates the close proximity of mineral. In the No. 7 level some considerable distance has been driven, and has passed through a series of changes. In some places the lode was poor, in others the contrary. The stoping done in the north ground is shown in the plan in sections R. E. D. 32, 33, 34, 35 In one stope, a vertical lode, apparently a distinctly separate mineral was met with, but continuing down to the main lode, and making a junction with it. This was worked on, but gave only a moderate result. The lode in the breast of the end at present time is thrown out of its regular course by a crosscourse, but the mineral has been so favourable that it is intended to follow it on the other side of this crosscourse, to ascertain its value. No advance has been made in south ground, the vein having become so impoverished that the drivage was suspended. The stoping done in this locality is shown in sections R. 9, 10, 11, 17, 18. After the main lode in No. 8 has been cut, the lode aforementioned, and the small rich vein, will be opened on, and with these the mine will be in a position to supply a larger number of stamps than it has at command at present. The site for No. 9 crosscut has been selected, but it will not be commenced until the main lode has been opened on somewhat, and its general characteristics known in No. 8 crosscut.—Tigrito. This mine has proved disappointing in its produce, but, within the past week or two, a very notable change has occurred in its appearance, the lode west having much improved. This is hoped to be the point of some rich ground known to exist between the No. 6 and No. 5 level, but the locality of the rich mineral found in No. 5 some years ago is not yet reached. The east ground has been almost barren since its commencement from the crosscut; however, as it is easy and cheap to drive through, the level will be continued as a prospect. The continuation of the main crosscut has already begun to indicate presence of mineral, but the vein for which this has been continued, will not be intersected for some distance. Little is known of this vein, and on surface it has only been worked on in a desultory manner by tributers in former years. The vein is, however, intact from the level of No. 6 crosscut to surface, and if the mineral is only of medium quality, it can be easily and cheaply worked. If the Tigrito lode should continue to improve, there is no urgent necessity to work on this new mineral. When opened, it may be kept in reserve, but the reason for the present work of prospecting is explained under heading "General." From the monthly tabulated statements, as also from the summary, it will be observed that very little stoping has been done, the mineral being too poor to pay its costs. The mill has been kept running regularly, the Cordoba mine having supplied it with a quantity of mineral each month. This was considered judicious, as the Tigrito mill is almost new, and with plenty of water. The consequence is, that the Cordoba mine has been unfairly taxed, and its demise above No. 7 level has happened a little prematurely. —Marmajito. At this mine everything has a favourable tendency, and will in all probability be a good mine when further opened. In December some very rich mineral was found in driving and stoping, section B. C. 11, 12. A crosscourse has been met with in the last few feet of drivage, and the mineral "pinched" to a small vein. This occurred in the west ground, but the east ground began to improve, and at present produces the principal portion of the mineral crushed. As No. 2 crosscut advanced, some small branches of mineral were met with, and it may be assumed that these will join and become a lode when driven on, and will, therefore, be a separate mineral. However, it is premature to remark further on this point in this report.—Marmajon. At this mine, no extraction of mineral has been done, the deep crosscut being the only work in hand until December, when another crosscut was started east of deep crosscut, to cut some mineral found to exist in the locality indicated by surface outcropping. Roughly, it is estimated that about 180 feet must be driven to intersect it, and as the ground, through which the drivage is made is soft, it may be assumed, that soon the mineral will be met. In the deep crosscut two levels are being driven on, but the lode seems to be yet unsettled; however, as the work is a prospect, its present poor condition is not disappointing, but the fact of the lode having been of good quality at shallower depths, induces the continuance of work. A *résumén* of all the mining operation carried on on the company's account is appended to this, and it shows about 150 cubic fathoms more extracted than in the previous half-year in development and exploration and stoping of mineral.—Leased mines. These mines have produced a little more gold in the last half-year than in the first half. The result is shown under "Cost and Returns." Palmichala has produced the greatest amount. Rosario following next. Nothing particular to note has occurred in any of them; they are worked in the native style, but not being prejudicial to the company's interest, and as they give a small profit, and also not being worth the attention of the company at present, other than the supervision of them periodically, as time permits, they to some extent keep alive the neighbourhood in which they are situated, and thereby prevent theft by outsiders, who are always to be found on remote spots, at work on the company's mineral or sands. —Costs and returns. Although the costs have been considerably more in the past six months than in the previous half-year, there has been a very fair profit made considering the amount of new work done. Part of this expense is due to the extra timbers cut and brought during November, and also partly through heavy freights and incidental charges. The amount of ore crushed is 21,391 tons, or 3397 tons in excess of the previous half-year. This ore produced 19,284·82 ounces of bullion, and 146·33 tons of concentrates. The bullion is estimated at £45,236 1s. 4d., the sulphurets are estimated at £4778 14s. 9d., making a total of £50,014 16s. 1d. The average yield per ton is ·63 or 18 dwts., value £2 2s. 3d. The crushings from the several mines are as follows:—

Mine.	Tons.	Ore produced.	Value. £	s.	d.
Silencio	12,380 ..	14,738·97 ..	34,283	0	1
La Salada	3,040 ..	1,036·23 ..	2,377	7	8
San Joaquin ..	1,198 ..	700·44 ..	1,700	17	0
Cordorba	3,389 ..	2,061·90 ..	5,147	2	8
Marmajito	707 ..	535·39 ..	1,218	16	1
Tigrito	677 ..	190·66 ..	458	5	6
*Marmajon	— ..	21·23 ..	50	12	0

* From Marmajito and Cordoba sands and concentrates.

The leased mines yielded 1084·20 ounces, valued at £2736 19s., and are detailed as follows:—

Mine.	Ounces.	Value. £	s.	d.
Palmichala ..	415·57 ..	1,098	6	9
Rosario	335·69 ..	867	8	0
Cecilia	171·26 ..	409	11	2
Tigrito	7·22 ..	18	16	0
Victoria Reina ..	96·04 ..	200	6	4
Streamers ..	58·42 ..	142	11	2
	1,084·20	2,736	19	5

The total yield from the company's property, therefore, is 20,369·02 ounces, and valued at, with the sulphurets, £52,751 15s. 9d.—General. From the foregoing, it will be observed that the position of the mines has very much improved, and that they have kept steadily increasing their output, with better profit, although the expenses have been unusually heavy. Much has yet to be done before the mines can be considered as equipped with the requirements necessary for cheap working. First and foremost of these is machinery, and of this there is not the least doubt that the mines must have, sooner or later, a complete outfit. At present, the machinery erected, in course of erection, and to be erected soon, suffices, to some extent, the demands of the mines in their present position; but it is evident, from every day's experience, that the property is worthy of much further development, and there is no reason to doubt that the unworked lodes (of which the whole property abounds) should not be quite as profitable as those now in operation. To attain some knowledge of other lodes, some prospecting should be done, and this could be prudently guarded by the condition of the other mines. For some time all the mines, with the exception of El Silencio, have been in a state of exploration, instead of having been developed sufficiently to guarantee the necessary extraction, without much extra cost in exploratory work. The past half-year shows, that in taking the mining which includes all explorations, whether done in crosscutting, through country rock, sinking of shafts in same, or driving sinking winzes, or making upraises, which is exploratory work, and a *résumé* of which is forwarded; and comparing the department with former half-years, with the then lesser price of wages and provisions, the result is satisfactory. Those mines which have required such an amount of exploratory work, and are not yet in a condition to be considered for extraction of mineral, without further exploration beyond the advances in levels, rises, and winzes on the lodes, have increased the cost by one-third; but it can be hoped that before long this branch of the mining operations will have considerably diminished, and that the ton of ore will be mined much more cheaply. At Silencio the lowest level in the mine carries the best ore, and the results of the crushings show it to be very rich. This mine has produced three-fourths of the total bullion won in the half-year, and its condition as regards the value and quantity of the ore at the time of writing can be compared with any period during that time. La Salada Mine is passing a severe test, by reason of so much exploratory work. Practically it is a new mine, and with its new machinery there is no reason that it should not be a rival to El Silencio before very long. The ore is known to be of good quality, and that there is an abundance of it, and any reasonable outlay now being made, will be met in a short period with certainty. At Cordoba the position is much the same, and what will be most required is adequate machinery to cope with the mineral. As already mentioned, the minerals of this mine are apparently doubled by the several discoveries made in crosscutting, and the opening of other mineral in the Humedad valley. The same may be said of Tigrito, Marmajon, and Marmajito mines, and no doubt during the current year these will have repaid all the outlays made in them, and will have turned the scale in their favour. The general position now is that the mines have been got into a systematic mode of working, but, as has been mentioned, some of them are not yet out of exploratory condition, and until they are, thorohgh economical working cannot be hoped for. In the meantime, operations must be guided by circumstances, and whilst the Exchange rules so exceptionally high, to take advantage of the opportunity. However, during the whole of last year, very little was gained by the abnormally high rate of exchange, as the prices of provisions rose proportionally. Towards the end of the year exchange fell, as did also the prices of the provisions, and, therefore, the advantages were not so great as would be imagined. The average rate of exchange throughout the six months was 160 per cent. There is now a tendency towards rising, and it is quite probable that the last year's operations will to some extent be repeated. I should have mentioned that for the proposed new mill for Cordoba, besides the amount of water now at command, it is intended to make use of another stream, almost an equal quantity which flows on to old Tigrito, thence to Maria Dama mill. This, however, cannot be done until the Tias stream is available for use at Maria Dama, and can replace the water in question. Although it is most desirable to increase the Maria Dama milling capacity, nothing has yet been attempted on account of more urgent demands in other sections, but it will have attention as soon as possible. Although the number of stamps is to be increased about three-fourths more than those at present running, it will be advisable from the nature of the ores in deeper sections of the mine to crush finer. The matter of the treatment of concentrates also has been studied, and the material for the creation of the appliances for roasting and amalgamating commenced, and, if successful, concentration can be more general throughout the mines, and a much larger percentage saved in crushing than at present is done; and it will induce the owners of leased mines to collect what they now consider as useless.

D'ARCY ESTATE.—Report dated March 30: Main shaft sunk and timbered during the week 8 feet, present depth 339 feet. Sinking continues in very hard diorite.—Portion 54. Drive from main shaft extended 15 feet, following quartz vein 6 inches wide with small prospects.—Prospecting shaft. No. 3 sunk 10 feet, present depth 42 feet; no change.

WENTWORTH EXTENSION.—Report dated March 30: Carroll's shaft. No 1 west crosscut advanced 7 feet, total length 10 feet in diorite. East crosscut in 16 feet progress during the week. 12 feet through diorite, with bands of serpentine. Trenching work shows that all the alluvial carries gold.

DINNER TO SIR WILLIAM ROBINSON.

A COMPLIMENTARY dinner was given on Monday, at the King's Hall, Holborn Restaurant, to Sir William C. F. Robinson, the Governor of Western Australia.

The Marquis of RIPON, Colonial Secretary, presided, and had on his right the guest of the evening, the Earl of Jersey, Lord Percy Douglas, Sir C. W. Crawford, Sir Robert Herbert, Sir John Pender, Sir Saul Samuel, Sir Malcolm Fraser, Sir Bevan Edwards, Sir F. H. Evans, M.P., Mr. Sydney Buxton, and Sir Joseph Dimsdale. On the Chairman's left were the Marquis of Tweeddale, the Earl of Donoughmore, Lord G. Gordon, Sir T. F. Buxton, Sir Henry Loch, Sir James Garrick, Sir Westley Perceval, Sir E. Ashmead-Bartlett, M.P., Sir Henry Cartwright, Vice-Admiral Bowden Smith, Colonel North; and Messrs. C. Algernon Moreing, T. B. Bewick, A. Chadbrum, N. J. H. Schotborgh, G. Cutcliffe, F. Holcombe, W. C. Punchard, E. Poole, C. H. Tindal, S. Jennings, E. Bainbridge, C. Vautin, E. H. Peers, A. Stoneham, J. H. Collins, R. H. Lapage, E. Walmesley, I. H. North, R. H. Wesencraft, W. J. Pattison, G. F. Tavinor, R. J. Middleton, F.G.S.E., J. McDonald, J. Morison, E. D. Oppert, A. Woolley-Hart, Dyson Weston, H. Seton-Karr, M.P., &c,

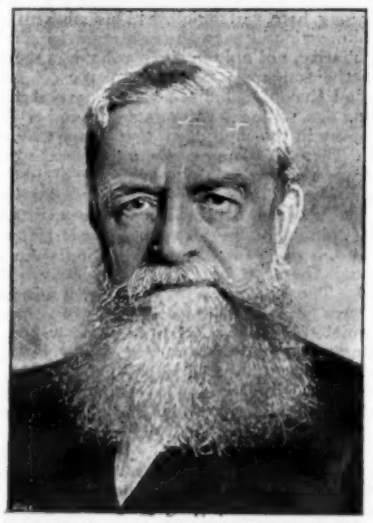
SIR WILLIAM C. F. ROBINSON.

(By permission of Messrs. Elliott and Fry.)

The guests were received by Mr. F. A. Thompson, who, together with Mr. A. E. Walton, Mr. A. F. Calvert, and other well-known gentlemen, was instrumental in organising the banquet. Nearly 500 guests were present.

The customary loyal toasts having been cordially duly honoured,

The CHAIRMAN, in submitting the "The Colony of Western Australia," coupled with the name of Sir W. C. F. Robinson, said it seemed to him that all Englishmen might be well proud of the colony of Western Australia. (Cheers). He was not there to institute comparisons between Western Australia and any other colony, but this he might say, that, though the youngest community in Australia in regard to responsible Government, she had shown herself not unworthy of the privileges of those institutions. His distinguished friend, Sir William Robinson, had been at the head of her Government when she was a sort of quasi-Crown Colony, and he had been and was the first Governor of self-governing Western Australia. In the year 1890 she was granted the privilege of self-government, and from that hour had advanced with rapid strides. The progress which had been made in all directions—in population, in trade, in the development of local industries, and in public confidence—since that time had been remarkable. He did not know that that progress had been exceeded in any other part of the British dominions. In the 20 years from 1871 to 1891 the European population increased by 20,000, but from 1891 to the present time—only four and a-years—it had increased by no less than 30,000. Then, again, the imports, which in 1890 amounted to £874,447, had increased in 1894 to £1,010,126, which was a proof of how capital was being attracted to the colony. This was, no doubt, owing specially to the recent gold discoveries. But it was not only gold which Western Australia supplied to them;



THE RIGHT HON. THE MARQUIS OF RIPON.

(By permission of the Stereoscopic Company.)

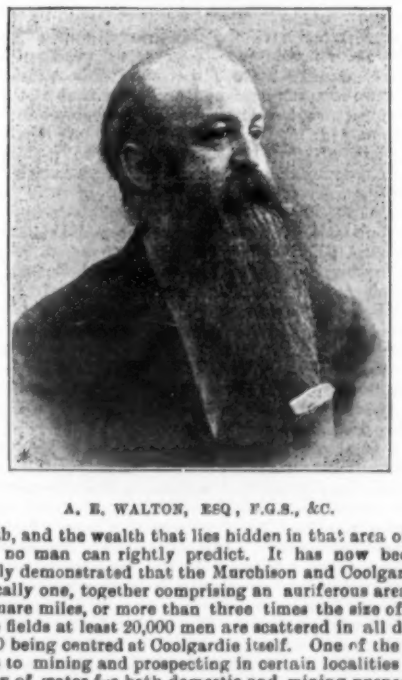
the colony was one of the few seats of the pearl fishery, and she also did a large timber trade. There was another argument in favour of the present prosperity of Western Australia. She had recently indulged in the luxury of a loan, and such was the confidence of investors in this country that that loan, which was borrowed at 3½ per cent., was raised at an averaged price of £103 1s. 4d. Western Australia was the youngest of the representative colonies in Australia, and she would doubtless profit by the experience of her elder sisters. In further observations, the Chairman said they were all glad to see Sir William Robinson among them, and to know that his long and eminent career in the public service had not injured his health. He had served this country well in North America, in the Straits Settlements, and in Australia, having been twice Governor of Western Australia, and also Governor of South Australia. He had had a career of some 33 years of almost unbroken labour, and certainly of unchecked distinction. (Cheers.) That great company had assembled to prove the high esteem in which they held the work which Sir William had done for both this country and the colonies. (Loud cheers.)

The toast was accorded musical honours.

Sir WILLIAM ROBINSON, who was loudly cheered on rising to reply, said, in the course of his remarks: I am sure you will believe me when I say that I feel deeply honoured and flattered at the hospitality extended to me this evening, and the splendid reception which you have been so good as to accord to the toast of my health. As we speak here to-night, the rising sun of a beautiful May morning has just shed its golden rays on the gold fields of Coolgardie—indicative, as we like to believe, of the vast wealth which is stored in that favoured land—and is about to rise on the beautiful City of Perth. When that same day's sun shall reach this western longitude to-morrow morning—that is, if fortunately it should be visible to the eye—I would ask you to allow it to remind you of the fact that at that self-same moment in Perth—in the clubs, the hotels, and at the street corners—our fellow-subjects and fellow-countrymen will be reading in the evening papers an account of this day's proceedings, and that they will send to you thoughts of brotherly love and sympathy awakened by the great reception which you have been so good as to accord to me as their representative. It is as nearly as possible 20 years since I first made acquaintance with Western Australia. What changes have indeed taken place since then! At that date there were no steamers worthy of the name on the coast; now we are in steam communication with the eastern colonies—not only by means of the great mail steamers, but by excellent steamers of local lines, some of these boats communicating with our northern as well as our southern ports, and one line with the colony of Singapore. Moreover, as you know, a large sum of money is now being expended on harbour works at Fremantle, which we hope and believe will result in the ocean steamers making Fremantle their port of call. Railways, too, were almost unknown, and were spoken of with bated breath as achievements which might possibly be accomplished in the far and distant future. Now we have a complete and efficient system between Fremantle, Perth, and the eastern districts. We have the Great Southern line to Albany, which is in the hands of a private company, and the Midland, also in the hands of the private company, which connects the capital

F. A. THOMPSON, ESQ., F.G.S. &C.

with Geraldton to the north, and soon we shall have a Government line to Coolgardie, and to the Blackwood in the south. Farming, dairying, and fruit growing will stand in a very different position in the future to what they have in the past, as, of course, the increasing population of the gold fields will provide a remunerative market for all that can be produced. Then, as to our telegraph system. From the extreme north of the colony to Eucla, on the South Australian border, a message can be sent for a shilling. I do not know any other one territory of the same size in which the same can be done. The remarkable changes and improvements in the fair City of Perth were next alluded to by the speaker, who afterwards proceeded: I must, on such an occasion as this, endeavour to avoid wearying you with statistics, but just one or two words as to the financial progress of the colony may not be out of place. The revenue for the year ending 31st March amounted, I believe, to £1,020,000, which was £409,000 more than the previous year, the railway receipts only having risen from £130,000 to £255,000; and, as a matter of comparison, it is interesting to note that the revenue for the month of March last exceeded the entire annual revenue of the colony when first I went there 20 years ago; and what is satisfactory is that this increase may be accepted as a sign of sound and permanent progress. The mineral development of the country has been, if possible, still more remarkable. The declared gold fields extend from Kimberley in the north, to Dundas



A. E. WALTON, ESQ., F.G.S., &C.

in the south, and the wealth that lies hidden in that area of country I suppose no man can rightly predict. It has now been pretty conclusively demonstrated that the Murchison and Coolgardie fields are practically one, together comprising an auriferous area of over 100,000 square miles, or more than three times the size of Ireland. Over these fields at least 20,000 men are scattered in all directions, about 4000 being centred at Coolgardie itself. One of the principal drawbacks to mining and prospecting in certain localities has been the scarcity of water for both domestic and mining purposes. But a great deal has been done by both the Government and private companies in the direction of conservation of the rain which falls from the clouds, and the condensation of the superficial, and, for the most part, salt supplies which abound all over the Coolgardie district. As the shafts are being deepened, subterranean water—a good deal of it drinkable—is being discovered, and it is the opinion of experts that, by means of one or other of the various schemes which have been propounded, the water difficulty which has stood in the way of mining for a time will soon disappear. Concluding, Sir William reminded his hearers that, though the glamour of gold had for the moment attracted so much attention, it would be a mistake in forecasting the future of the colony to suppose that all their eggs were in one basket, and he pointed to the several other industries carried on in the colony, and which were destined to make West Australia so prosperous in the future. (Loud cheers).

"The Agent-General for the Colony" was also proposed by the CHAIRMAN, and Sir MALCOLM FRASER made an appropriate response, pointing out, among other things, that the coal fields of Western Australia were likely to turn out even beyond the most sanguine anticipations.

Sir CHARLES CRAUFURD submitted "The Mining Industry," referring to the present as the "golden" age, for never before had the output of gold approached that of our own times—still without satisfying the needs of the world's commerce. He trusted that new appliances would greatly increase that output. (Cheers.)

Mr. F. A. THOMPSON, F.G.S., M.I.M.M., in responding, said: My lords and gentlemen—It is with a mingled feeling of fear and pride that I rise to respond to the toast of "The Mining Industry"—fear, recognising, as I do, the fact that in this large assembly there are undoubtedly those to be found far abler than myself to perform the duty that at present devolves upon me—("No, no")—and fear, too, from a sense of duty lest by the error of either omission or commission I shall fail to do the subject that justice which I believe its importance to the commercial world warrants. (Cheers.) Yet, at the same time, it is to me a source of pardonable pride and pleasure that I should be considered competent to respond to so important a toast, and I must, therefore, ask the indulgence of those present for any failure on my part to prove in reality equal to the task imposed. After laying great stress upon the importance of the mining industry, and its power as a colonising influence, he went on to speak of the mineral wealth of Western Australia, and said:—Bold indeed would be the man who, having studied the situation in that colony, who having watched its recent development and rapid progress, and having given serious thought to its future prospects, shall say that the mining industry there does not give equal, or better, promise of future greatness than it did in any of the countries mentioned when in a similar state of development. It has been stated on more than one occasion that the industry in this colony is handicapped to such an extent with obstacles and difficulties as to render it unprofitable. Gentlemen, I am not here to-night to make the statement that there are no difficulties to be overcome, or obstacles to be surmounted in placing the mining industry in this country upon the same sound, successful, and profitable basis as has been done elsewhere, and upon the accomplishment of which so much of the future success of the colony depends. But I am here to say, and I say it without fear of successful contradiction, that whilst admitting the existence of local difficulties, yet that they are not greater than have existed, been met, and successfully overcome in other countries, and that they can, are being, and will be successfully overcome here. (Cheers.) Further, that while admitting the difficulties referred to, I must mention that there are also advantages existing which must not be lost sight of. (Hear, hear.) For instance, it is universally admitted that the richness of the auriferous veins and deposits discovered in this colony are unexcelled, and further, I believe I can safely say that during no similar period in the world's history has anything like the attention been given to the improvement made in the means, either chemical or mechanical, or by a combination of both, of extracting the precious metals from these associated ores that has been the result of scientific experiment during the past 10 years. (Cheers.) We, therefore, enter into this field of operations with the knowledge and experience gained by these results, obtained elsewhere, which no longer figure as mere laboratory or parlour tests, but, on the contrary, are accomplished facts, established on commercial lines in different parts of the world, and can, are being, and will be applied with equally successful results to the ores found in this colony. And, further still, the marvellous richness of the discoveries recently made have attracted to these fields two elements, which, in the past, have accomplished great results, and to which the future of this colony will be greatly indebted—I refer to science and capital. (Cheers.) Either one of these elements constitutes a poser in itself, but when the two are successfully combined and unitedly applied to the solution of any important question, no power on earth can resist their combined influence, and nothing short of the direct intervention of Providence itself prevent the accomplishment of the object sought, and, gentleman, you may take it from me that Providence will not intervene to the detriment of Western Australia. (Cheers.) In dealing with this toast, I wish specially to recognise the efforts of the Government of the colony, whose head is our honoured guest to-night—(hear, hear)—for its earnest endeavours to meet the conditions which have been imposed by the discovery in their midst of the elements of the industry to the toast of which I have the honour to respond. It affords me great pleasure to be able to state to-night that the Government of Western Australia, fully appreciating the importance of these discoveries, and the fact that such an industry, for its successful working, and to adequately encourage and develop its vast resources, require special recognition, as well as special legislation, have put forth efforts in the past, accompanied with such success, that the desert has already been reclaimed, and made to yield its treasures. (Cheers.) The brilliant future of the colony, from a mining standpoint, has been established, and is to-day recognised throughout the civilised world. Not content, however, with these efforts in the past, the Government are still wisely endeavouring to improve and ameliorate the conditions under which this great industry can best be carried on—by amendment and improvement of the laws and regulations applicable to it, by wise and beneficent legislation, which will be the means of advancing its interest to the fullest extent. (Cheers.) By the extension of its railways to the important mining centres, the building of which provides the greatest possible boon to the industry. Gentlemen, may the mining industry in general, and in Western Australia in particular, continue to prosper and improve until it shall reach that zenith of prosperity its earnest supporters not only desire, but confidently expect, and in this position, when once attained, may its success continue unabated, until it shall outlive the youngest of our children and our children's children. (Loud cheers.)

Other toasts having been honoured, the company separated.

THE Westralia Mine, which is 7 miles to the north of Coolgardie, and which has been purchased by the Hon. William Clarke (late Minister of Justice in New South Wales), is reported to have struck rich ore, samples of which have gone as high as 110 ounces to the ton, whilst bulk assays also give remarkable results. Considering that there are reported to be 10,000 tons of ore in sight, this property promises well. The same lucky gentleman has picked up an excellent property in the vicinity of the recent wonderful find at Mount Margaret, by which he sets considerable store, and about which, no doubt, more may be heard later; but news is meagre now, as he has been endeavouring to push his way with horses through dry country to the Margaret, and has been compelled to return.

A GOOD deal of interest has been created by the fact that large fresh water lagoons, containing many millions of gallons, have been discovered in the vicinity of Dundas. This district being a somewhat dry one, the find is of much value. Some nice rains have fallen about the Coolgardie gold field, while the water difficulty is becoming less serious and alarming every month, plenty of the fluid being found on most of the mines before the 200 feet level is struck. The Government is also going to do its share in searching for water, and has, at the time of writing, just cabled for tenders for sinking bores on the Coolgardie field to a depth of not more than 2000 feet, in the hope of striking artesian water, the discovery of which would speedily change the aspect of affairs.

GOLD DISCOVERY IN BOKHARA.—A Dalziel telegram dated St. Petersburg, 7th May, states that much interest has been aroused by a recent announcement in the *Grashdanin* that extensive gold fields have been discovered in Bokhara. The locality has, it is said, been examined by a mining engineer and specialist, who reports the existence of almost inexhaustible deposits.

ALLOYS.

THIRD REPORT TO THE ALLOYS RESEARCH COMMITTEE.

By Professor W. C. ROBERTS-AUSTEN, C.B., F.R.S.

(*Concluded from Page* 508.)

IRON-ALUMINIUM ALLOYS.—The pyrometric examination of this series of alloys was undertaken in view of the increasing importance of the latter metal; and although no alloy of industrial importance was discovered, much insight has been afforded as to the general behaviour of aluminium when alloyed with other metals. In preparing the alloys an attempt was made to exclude carbon as far as possible, so that cooling curves might be obtained of alloys consisting simply of iron and aluminium. On this account the iron and aluminium were melted in a clay crucible in a furnace heated with coal gas burnt by oxygen, a layer of glass being added to protect the alloy from oxidation. The composition of each sample was determined subsequently. The furnace was arranged with an inner lining of fireclay tiles, round which the flame circulated before escaping; and the thermo-couple, enclosed in a fireclay tube and previously heated in the upper part of the furnace, was thrust through the hole into the liquid alloy directly after turning off the gas. With this furnace very high temperatures could be attained, and little heat was lost during the insertion of the thermo-couple; so that after a little practice most of the cooling curves of this series were obtained with facility. As the amount of iron in the alloy is increased, the temperature of the melting point rises. With alloys containing as much as 90 per cent. of iron, and with iron itself, the method had to be modified, because the thin crucible, although of refractory fireclay, melted down. The solid base of a larger crucible was bedded upon the floor of the furnace, so as to form a shallow dish, in which the iron or the alloy was placed, the flame passing over and heating the metal directly. By this means cooling curves of iron which was practically free from carbon, were obtained to complete the series. The heat was so intense that the fireclay tube enclosing the thermo-couple often became quite soft, and bent while it was being placed in the metal, which, of course, increased the difficulty of manipulation. Inspection of a selection of the cooling curves shows that their general nature resembles that of the copper-bismuth alloys dealt with in the second report, 1893, page 122 and plate 32. They are much simpler than the copper-tin series. The freezing points of the several alloys lie in two lines; a line which passes through the melting point of aluminium, and is nearly horizontal; and a curved line, which passes through the melting point of iron. It will be seen that the freezing point of iron alloyed with (say) 1 per cent. of aluminium is but little lower than that of iron itself; that is to say, the melting point of nearly pure iron is only slightly lowered by a small addition of aluminium. Osmond has already shown that aluminium does not produce any considerable lowering of the freezing point of cast-iron; and the usually accepted idea that cast-iron or steel containing aluminium is very fusible must be due to the fluidity of the metal when it is melted. Alloys of iron and aluminium, which contain from 20 to 35 per cent. of iron, show two freezing points, the lower occurring at a constant temperature, a few degrees below the freezing point of pure aluminium. Alloys which contain more than 35 per cent. of iron have only one freezing point. Alloys containing 40 to 50 per cent. of iron solidify within a very small range of temperature, the temperature of the mass of metal falling only slightly during the change from the liquid to the solid state. Alloys containing more than 50 per cent. of iron have a more extended freezing range, the temperature of the mass sometimes falling as much as 100° C. or 180° F. during its solidification, as will be evident from the slope of their cooling curves. A curve of this kind indicates that a series of small portions of the alloy, having successively lower and lower freezing points, and, therefore, containing more and more aluminium, are becoming solid. A cooling curve which is flat within the freezing range indicates that all the metal which then solidifies freezes at the same temperature, and has, therefore, probably a uniform composition, and in some cases indicates the presence of a chemical compound rather than a mere solution. The freezing range is most restricted in the alloy containing about 50 per cent. of aluminium. The samples of alloys used in these experiments were kept for some months before being analysed, and it was found that during this time those which contained from 40 to 60 per cent. of aluminium had spontaneously disintegrated, and had fallen to powder. The powder was not oxidised, but consisted of clean metallic grains, probably resulting from chemical changes which had gradually taken place in the solid alloy. Whether the iron and aluminium were in a state of solution, or were chemically combined when molten, there can be little doubt that they are so combined in the metallic powder, as attempts to remelt this powder have proved unsuccessful, which points to the formation of an infusible compound. Solutions are considered to be dissociated chemical compounds. These two metals—iron and aluminium—may have been too hot to unite when in the molten state; but, at a lower temperature, long-continued proximity at last effected their chemical union. It will hardly be supposed that this is an isolated case in the study of alloys. The allotropy or molecular change which takes place in Newton's fusible alloy, when solid, has already been cited (second report, 1893, page 127); and no doubt many unaccountable changes in alloys, leading to unforeseen fracture and disaster, are traceable to the same cause. The fusible alloys which are used in automatic appliances for extinguishing fires, and in certain cases for safety plugs, undergo a molecular change of this kind, which renders them much more infusible than when freshly made; and the alloys of lead and tin melt in general at temperatures considerably above those at which they freeze. The iron-aluminium alloy which disintegrates most completely in this way contains about 50 per cent. of iron, so that the powder may be a compound having the formula $FeAl_2$; but as it appears to be able to dissolve a small excess of either metal, it is not possible directly to confirm this view without further investigation. The iron-aluminium alloys, which contain more than 60 per cent. of iron, have higher melting points, and become stronger, as the amount of iron is increased; those containing about 90 per cent. of iron appear to be tough and strong. They also appear to freeze at a higher temperature than iron itself; although, in view of the difficulty of obtaining cooling curves from the more infusible alloys, it would be well to confirm this point. Tensile tests of these alloys have not yet been made; but it seems likely that some alloy of aluminium with iron, free from carbon, containing about 90 per cent. of iron, might prove a highly serviceable material for the production of small malleable castings of considerable strength. Most of the iron-aluminium alloys are rendered worthless for industrial application by their liability to undergo molecular change, which is so marked in the alloy containing 50 per cent. of each metal.

Welding of Iron and Steel.—The following experiments were made by Mr. Thomas Wrightson, M.P., with the object of ascertaining whether the welding of iron is attended with a fall of temperature, as is the case in the regelation of ice. After some preliminary experiments, it was decided that the only satisfactory way of testing this would be by means of the electric welding apparatus of the Thomson-Houston Company, in which alternating currents are employed. The Electric Welding Company readily put at our disposal one of their excellent appliances and a suitable dynamo. The manager, Mr. Armstrong, and the electrician, Mr. Relf, assisted in installing these at the Mint, and rendered every possible assistance in making the arrangement effective. The leads were carried to my laboratory from the Mint dynamo-room, where, by the kindness of Mr. Robert A. Hill, superintendent of the Operative Department, the alternating dynamo was placed, and was driven from the Mint engines. The thermo-junction was placed between the clean surfaces of the rods of iron to be welded; and these rods were enclosed in a porcelain tube contained within a suitable jacket of iron. The object of the electric welder was merely to raise the iron to a temperature at which it could be welded; and when this temperature was obtained, pressure was applied, and a photographic curve was traced, which would, of course, indicate any variation of temperature that might ensue upon the application of the pressure. The pressure was applied when the temperature of the rods was about 1300° C. or 2370° F. A slight rise of temperature was at first noted, and this was found to be due to the fact that the interstices between the outside of the rod and its insulated envelope had not been entirely filled by the plastic iron. The porcelain, of course, cracked, and the minute cracks had also to be filled by the plastic iron before the effect of pressure in producing a fall of temperature could be demonstrated. After reheating the rod to the welding heat, it was again cooled from a temperature of about 1400° C. or 2550° F., and on pressing it a fall of temperature was shown, equal to about 57° C. or 103° F. These experiments were repeated many times, and appeared to show that the application of pressure to plastic iron, heated within the range of temperature at which it could be welded, is certainly attended by a fall in temperature. The welding of iron and the regelation of ice would thus appear to be analogous phenomena, a point of no small theoretical importance. These results have already been communicated by Mr. Wrightson to the Royal Society; and it would have been impossible to obtain them, had not the recording pyrometer been available.

Anti-Friction Alloys.—The work of the committee has been fruitful in a somewhat unexpected way; for Professor Goodman informs me that experiments, the results of which I trust he will communicate to the Institution, have led him to discover the fact that anti-friction alloys must always contain a metal with a high atomic volume. There seems, moreover, to be a direct connection between the efficiency of the anti-friction alloy and the atomic volume of one of its constituents.

Conclusions.—In the last report I called attention to the fact that M. André Le Chatelier had suggested that the prejudicial action of an element is due to its forming a fusible compound with the metallic mass in which it is hidden; while, on the other hand, the presence of an element which forms an infusible compound with the mass promotes the formation of a fine grain, and imparts strength. It must not be supposed, however, as I then pointed out, that the action of the added element is due solely to its infusibility, or to its power of forming a fusible compound with a portion of the mass which contains it; for cases are numerous in which such an explanation does not apply. In this connection a suggestion made long ago by Raoul Pictet* well deserves consideration. He urged that there must be a connection between the melting points of metals and the periodic law of Mendeléeff; for he showed that for all metals there is a simple relation between their atomic weight, the amplitude of the movement of their molecules under the influence of heat, and their melting point. Pure metals with high melting points—such as platinum, iron, copper, and gold—are comparatively strong: and conversely metals with low melting points—zinc, lead, cadmium, bismuth, and tin—are relatively weak. Metals with high melting points must necessarily be coherent and tenacious, because much heat is required to drive their molecules apart in reducing them to the liquid mobile state in which the molecules have very small coherence; and, therefore, at ordinary temperatures much force must be applied to overcome the cohesion of the molecules and break the mass. Conversely in metals with low melting points a small elevation of temperature will overcome the molecular cohesion, and render them liquid—that is, will melt them. Such metals will be weak, because if little heat is required to melt the metal, less force will be needed to tear it apart. Hence melting point and tenacity are clearly connected. The absolute temperature of the melting point of a metal must be closely connected with its atomic volume, because the former is inversely proportional to the rate at which the amplitude of the oscillations of the molecules increases with temperature; and the rate of increase of amplitude at any given temperature is obtained by multiplying the ordinary thermal coefficient of linear expansion by the cube root of the atomic volume. The recent work of Professors Dewar and Fleming† bears directly on this question. They employed very low temperatures, and show that at the absolute zero of temperature pure metals would probably offer no resistance to the passage of an electric current, but that the electrical resistance of alloys does not diminish so rapidly with the lowering of temperature as in the case of pure metals. Dewar‡ has shown, moreover, that the tenacity of pure metals and alloys is greatly increased by extreme cold—that is, by the closer approximation of their molecules; and this affords additional evidence that metals become stronger at temperatures which are further and further removed from their melting points. The experiments on the alloys of copper and tin, as well as a series of cooling curves of the copper-nickel alloys, which have only been alluded to in this report, have direct bearing on the view that there is an intimate connection between the melting point of an alloy and its mechanical properties. This connection, which is well marked at ordinary temperatures, becomes of great importance in the case of alloys that have to be subjected to more or less heat in industrial use. The majority of alloys, as has been shown, have more than one solidifying point; and it is necessary to ascertain which of these freezing points is the important one in relation to the mechanical properties of the alloy. In copper containing bismuth, or in gold containing either bismuth or lead, the presence of a trace of such a metal with a large atomic volume, and consequently low melting point renders the mass intensely brittle, and quite unfits it for mechanical use. Great weakness is here associated with the low subsidiary freezing point of a mass which is nevertheless as a whole fairly infusible. The action, however, of traces of impurities on masses of pure metals is very different from the effect of two metals on each other when alloyed in more or less equal proportions. In the latter case the temperature of the main freezing point appears to be the more significant factor; the presence or absence of lower subsidiary freezing points seems to be of much less importance. At present, therefore, attention is directed to ascertaining the relation between the low subordinate solidifying point, and the mechanical properties of metals which contain small quantities of impurity. It appears that in such metals a low subordinate freezing point is usually associated with small tenacity. The increased sensitiveness which has now been given to the recording pyrometer renders a solution of this complex problem more hopeful.

I cannot conclude this report without expressing my warm appreciation of the excellent services which Mr. Stansfield has rendered in aiding me in conducting the tedious experiments, the results of which are now submitted to the Institution. Mr. Reginald Roberts, who was appointed as an assistant early last year, has also done good work.

* Comptes Rendus, Vol. 82, 1373, pages 355 and 1315.

† Philosophical Magazine, vol. xxxiv, 1892, page 328.

‡ Proceedings of the Royal Institution, vol. 14, part 2, 1895, page 1.

COOLGARDIE.

By BRENTON SYMONS, M.I.C.E.

ON descending from the coach at De Baun's Hotel, one's first glance of curiosity is up the principal street of the town. The scene which meets the gaze is precisely that which a veteran prospector would expect in a new mining camp; rows of hessian-clad frame-houses, accentuated by a sprinkling of more pretentious stores encased in corrugated zinc sheets. Coolgardie has, as yet, scarcely reached the dignity of two stories, but there is one such, a hotel, that dominates the surrounding shanties. In course of erection there are, however, some good buildings, one owned by the Townships Company, and a fine block of Government buildings intended for official departments, post, telegraph, mines, &c., which seem to show that the Government have confidence that the gold is "come to stay." The authorities have traced and named several streets, but Bayley's is the only one that can be designated a street, and this is only about 500 yards long. The side streets are canvas huts in which little business is done. Outside the town proper many hundreds of tents—generally liliputian—can be seen dotting the slopes for the distance of a mile or more. It is impossible to estimate with even approximate accuracy the number of inhabitants, even the citizens themselves seem to have no idea, but it must aggregate several thousands.

The town is situated at the mouth of Bayley's Valley, and is, in consequence, surrounded on all sides by low hills. Immediately east is the celebrated Flyshet Flat, which produced so much alluvial gold that it enabled the pioneer rush of diggers to purchase the means of living when the price of provisions was exorbitant and water was 5s. a gallon. All the gold obtained from this flat was separated by means of dry blowers, and the few old "fossickers" remaining still use them to glean the few particles of gold that suffice to keep them in "tucker." Bayley's-street may be considered the centre of activity of the district, and is always in a bustling state; in the morning there is a rush to the office with cables and telegrams, and during the afternoon, when perspiration exhausts the system, cool drinks are eagerly indulged in. The street is also rendered lively and interesting by the auctions, prospectors returning from the bush selling their outfits, whilst those just arrived are preparing for their expeditions to the (to them) unknown golden east. These sales seem to be continuous throughout most of the day, and the town-crier is always ringing his monotonous bell, or engaged in shouting out the value of the lots to be disposed of. The street is very wide, and, with no attempt at paving, is a waste of fine reddish sand, which the zephyrs blow into the eyes, causing painful irritation, and sometimes inflammation. During wind gusts, which at certain seasons are frequent, clouds of sand impenetrable to sight darken the streets and penetrate the stores, and when a "willy-willy" happens along, everything movable appears endowed with life, and goes sailing buoyantly above the houses; sheets of zinc lying around loose depart for higher regions, and their return to Mother Earth is anxiously regarded, as they fall with a force and directness sufficient to cut one in two. The truthful James of the town avers that tents and even water-tanks are sometimes taken up by the vortex of the whirlwind. On almost any exceptionally hot day whirls of dust may be observed crossing the plain, wrenching the leaves from the bushes as they persistently advance. There is as yet no park, but the width and garishness of the main street is, to a small extent, relieved by the few ancient eucalyptus trees, which stretch their long, bare, and rag-clothed branches up to the small tufts of verdure which crown their extreme tops. There is a pleasant peculiarity, not only in Coolgardie, but throughout the colony, that the songs are those of 30 years ago; and it is delicious to find the old melodies awakening so vividly the sensations of long ago. Stores are numerous, and a few of them are equal to any in the capital, so that almost everything can be procured. They all do an excellent business, as the town is the centre from which a mining population of, perhaps, 20,000 draw their supplies. There is even already established aerated waters and ice factories, and also a brewery, which produces what is called colonial beer—it is very colonial. Hotels are numerous, but not too many for the floating population continually surging through the town from the eastern colonies to the gold fields beyond. The place is also crowded with miners who come in from the bush for relaxation, and to relieve themselves of the ravages committed by canned meats and soak-water. The place is also teeming with agents of syndicates, heads of prospecting expeditions, and speculators, all intent upon securing some claim—rich for preference—on the gold fields. The natural result is that the hotels are over-crowded, and new-comers are compelled to camp in the parlour or on the balcony, with a very doubtful chance of a wash in the morning. Nearly all the hotels are frame-houses covered with zinc, and the bedrooms stretch far back into the yards, indeed, as far as the stabling, where the atmosphere cannot be considered pleasantly odoriferous; while, if you wish to get into the air, the lounging-chair has to be fixed in the unclean yard. Nevertheless, the accomodation, for a mining camp so recently established in a hungry and waterless desert, cannot be branded as bad. Beef and mutton are always attainable, and are fairly good, but all other foodstuff—fish, milk, butter, vegetables, &c.—is canned. This diet gradually lowers the tone of the system, and, in sensitive constitutions, leads to low fever or worse; and it was for this reason that exemption time was instituted. This annual relaxation from work for a few weeks takes place at Christmas, allows time for a visit to Perth or the eastern colonies, and the termination of the holiday brings back the toilers with renewed health and strength, and a store of energy equal to the following year's struggle. Nor can the hotel charges be considered anything but moderate, the best charging only 12s. per diem, with free water; this charge includes a sleeping apartment, or rather a bed if you are fortunate enough to secure a portion of a room.

In a town exposed to such high temperatures drink of some sort is an absolute necessity; bars are, therefore, plentiful, and remarkably well frequented from early morn to the small hours of the night. There is a beautiful simplicity in the prices charged; drinks of every description, from cheap colonial beer to Hennessy's brandy, are all reckoned at 1s.; this obviates the necessity for copper coinage. The customers do not object to this system, nor has any landlord been heard to do so. But it would be scarcely prudent for all to be continually indulging in alcoholic smiles, and a bountiful provision is made for those careful of their health in the number of places where teetotal drinks can be enjoyed. Although seldom iced, yet they are cool, the

water being stored in canvas bags, in which the temperature is lowered by evaporation. The sun is sometimes so hot and oppressive that the last shilling is often disbursed for a cool soda-squash. The most pleasant hotel at present open is Edwards's; it is new, and, therefore, comparatively clean, and it has two storeys, with a fine balcony overlooking the street.

Travelling has many discomforts—bad roads that cause continuous jolting, with clouds of dust whirling around you, penetrating eyes, ears, and nostrils, and a vertical sun glaring down through a forest of encalypti that affords no shade. It seems unaccountable to a Eurasian to pass through a forest thick with trees, and, instead of the expected shade, to see it everywhere full of light, and the sun's rays glinting from the undergrowth. At noon, when a halt is made to put the "billy" over the fire to provide a refreshing cup of tea, it is almost impossible to get any shade from the little tufts of foliage waving on the topmost branches. After enduring a tropical heat all day, the nights are often so cold and windy that camping on the ground admits of little sleep. In the winter months the nights are usually very frosty. Journeying about the fields is especially expensive, a buggy and a pair of horses costing £3 a day, plus food and water, which equals £2, unless, as sometimes happens, water is met in the granite holes. Including food, travelling in this way cannot be done for less than £5 10s. per diem. If a long stay is made in the district, it is far cheaper and less worrisome to buy a team for yourself. Camels can be hired for 15s. or 20s. a day for those who can ride them, and, as they feed on the forest undergrowth, and can endure the want of water several days, such travelling is comparatively cheap; they get over about 50 miles daily. Though camels have been known to live a fortnight or more without water, still, they trot along with more animation if watered every day. Camels, and especially horses, vary immensely in value; when the weather is dry and water on the field is very scarce, they can be bought for next to nothing, but let a good shower fall, or a good "find" happen, all rush to procure some sort of animal to start out, and immediately the price of horse-flesh is enhanced. The ordinary value of a horse varies from £15 to £40.

Provisions of all kinds are dear, and as prices are dependent on the amount of freight paid, potatoes, onions, flour, and fodder are all about the same price, varying from 5d to 6d. per pound. Water was until lately a most expensive luxury, so that it could only be used for drinking and cooking purposes. There are now a number of condensers along the roads and in the towns, the price varying from 3d. to 6d. a gallon at the wells, but is, of course, dearer when it has to be carted. In Coolgardie condensed water costs 5d. per gallon; is pure and not unpleasant to drink. Perhaps nothing indicates so clearly the dryness of the climate as the jubilation when the papers record a fall of rain in any place. The water before condensation is usually saturated with salt. In Southern Cross it is said to contain 30 per cent. of solid matter, and is, therefore, totally unfit for the purpose of raising steam, though it has been so used, to the detriment of the boilers. The water, though so crowded with saline matter, is considered to work well in the mill, and does not appear to weaken the amalgamating power of the plates.

Sanitation is conspicuous by its utter absence. All the refuse is thrown into the back yard, where the sand is expected to dispose of it. Teams of camels and horses add to the muck of the immediate surroundings, and the presence of the aboriginals with dirty habits tends to increase the filth, which, in some places, is awful. Add to this, the burning rays of a sun recording a shade temperature of from 100° to 114° F., and it must be conceded that all the elements to produce intestinal derangement are present in force. Living under such unsatisfactory conditions the inhabitants are naturally suffering very severely from typhoid fever, which attacks chiefly the healthy and young. As similar insanitary conditions prevail throughout the mining centres, there is in every township a considerable amount of sickness. The Coolgardie hospital—which possesses accommodation for 65 patients—is overcrowded, and applications for admittance are numerous. There are many medical men, but several of them are suffering from the malady, which seizes on rich and poor with strict impartiality. The hospital is in fairly good order; and, judging from the proportion of cases of recovery is well conducted. The Government supply funds to the extent of £150 hebdomadally, while the citizens give their time and gifts of food, &c. No doubt the health of the place will show a great improvement in the future; all gold fields suffer from such fevers at their initiation. The malady will decrease during the cool winter months.

Prospecting is all the rage in Coolgardie; all classes are infected, and no one who has any spare cash fails to procure an interest in some prospecting expedition or in some claim. Miners and labourers from the eastern colonies are sailing in crowds by every boat, and, arriving at Southern Cross or Coolgardie, procure camels to transport their impedimenta whilst they start for some part of the field; others, too impecunious to buy an animal, place their "swag" on a team, and tramp wearily behind through the sand. It is usual to "tucker" the miners, and give them a certain share in the claim for their labour should it prove of value. Thus the miners are always at the mercy of the "grub-staker," who holds the power of selling the claim to the best advantage, and, of course, appropriating the lion's share. These middlemen make it more difficult and expensive to obtain options on properties. A large proportion of the so-called miners are really only labourers who lack the knowledge to open up a claim in a miner-like manner; but this is a very secondary consideration to the claim-owners, because as soon as a claim is pegged out, and a few costean pits made across the vein, or a shaft sunk a few feet, it is dubbed a mine and comes into the market for sale. The majority of the properties offered to the agents of syndicates have rarely more than one shaft sunk, perhaps 20 to 40 feet deep, and if gold is visible in the quartz, thousands are asked and given for it. Claims with no shaft but only a small pit with heavy gold-bearing quartz have been sold as high as £30,000. Many of the owners of mining claims have often but a vague idea of the real value of their lodes. Occasionally they ask thousands for a property of no importance, and then again a few hundreds for what a mining expert would recognise as a valuable property. In this way several experts from "t'other side" have made an unexpected harvest. Owing to these circumstances, and to the exorbitant prices demanded, agents of syndicates have considerable difficulty to select a property at a fair value; but goaded by their employers to decide quickly, they must secure something, and this something—owing to the lodes being scarcely opened—may, as it happens, turn out rich or the reverse.

There are in Coolgardie many assayers who have promoted themselves to mining engineers, and who are engaged in the management and inspection of mines; and also many who have received no mining education, either theoretical or practical, but having been successful in floating a company are now regarded by the ignorant as mining luminaries. All these—as also the tradesmen—are linked together in a sort of mutual admiration society to extol the value and permanence of the gold fields, and the worth of any particular property they may be specially interested in, and in this they are ably seconded by the mining community and the Press of Perth. In spite of the difficulty of transport, scarcity of water, and other obvious disadvantages, they express themselves as perfectly convinced that most of the properties in every district will be profitable to the shareholders. The West Australian mining men abhor the presence of agents and experts in their midst—first, because they ardently desire that as many as possible of the sale negotiations shall pass through their hands; and, secondly, because they are in constant dread that unfavourable opinions may be expressed of the mining fields, on which so much of the future prosperity of the colony depends. English syndicates have, perhaps, placed too much reliance on the interested reports of so-called experts of Coolgardie, and some of them will undoubtedly have cause to regret not having procured the report of a trained expert to examine the properties before completing purchase.

Freightage from Southern Cross is very dear, though cheaper than formerly. The price just at present is about £20 per ton, but it varies greatly, according to the seasons. The cost and uncertainty of getting up machinery has seriously delayed the development of the district. The Government authorities have been very dilatory in preparing for the extension of the railway to Coolgardie. Had it been pushed onward diligently the line might have been opened in the autumn, but as the time of tendering is fixed for June, the road may not be in operation for more than a twelvemonth to the mining capital. This means a serious delay at a particularly critical time, and may possibly have a disastrous influence on the future of the mines, as many companies may feel disposed to wait. West Australians, though startled out of their lethargy by the unexpected gold boom, are rather dull and reactionary, and have insufficient capacity and energy to aid in an active manner the development of the gold fields, which are really animated by the spirit of the "t'other siders." It must be admitted that, notwithstanding the number of companies with big capitals in London—aggregating, it is said, seven millions—only a tithe of this sum is destined to be actually expended in the colony, because of the small proportion of working capital set aside for the purpose of opening the mines and erecting machinery.

The mining laws are miserable in the extreme, coded by men who could have had little knowledge of the regulations required to ensure the prosperity of mining fields. There are absurd regulations about labour conditions which tell heavily against the prospector, and places him at the mercy of shopkeepers and middlemen, besides encouraging that loathsome pest—the professional claim-jumper. The Warden—with a capital W—is King of all he surveys, with almost unlimited power, and is, consequently, not always as courteous as he might be, though doubtless he has cause for irritation. The plans showing the mining claims are miserably behind—indeed, so much so as to almost be useless to the new-comer. What with erasures, alterations of numbers, and absence of all the later claims, it is often difficult to recognise the particular property one seeks. The want of plans up to date, is however, to be shortly remedied by a firm of civil engineers in Perth. The banks are run on the grab system; a cheque drawn on a bank is only good for one town. If presented at a branch bank it must be negotiated and paid for. The commission charged between Perth and Coolgardie is 1 per cent. The bankers do not even recognise each others' notes, but charge 6d. for cashing them. They have also the impertinence to refuse an English £5 note, unless allowed a deduction of 2s. 6d., replacing the clean and crisp note so dear to Englishmen by sodden dirty notes of their own bank.

Altogether the life of the prospector is not a happy one. He is usually quite unable to meet the initial charges of the Warden, which are exorbitant, for a lease. He is compelled to obtain the amount of fees from middlemen, thus losing his liberty of action. The miners are supposed to earn a wage of £3 10s. weekly, but a large proportion only obtain bare "tucker," and have to take their profit when their claim is sold, which often never happens. Prospecting is scarcely such a continuous picnic as many in England suppose. The privations are severe enough—no fresh food, an eternity of canned meats, bad water, and cold camping nights, induce more or less illness in everyone. Certainly the prospectors are entitled to a good price when they come across a good lode. Unfortunately they usually get but a moderate share of the purchase money, those who have had a comparatively easy existence in the towns getting the major portion.

A NEW PROCESS OF ROASTING ORE.—A new process, known as the Beam method, of treating refractory and smelting gold ores now in use in Colorado is attracting considerable attention among mining men for the reason that the claim is made that the gold can be saved even when it does not appear in a fire assay. A number of plants, in which the process will be used, are now being erected in different parts of the country, and the following particulars will be of interest at this time to smelter men:—The ore is first roasted in a sealed muffle, which supplies to it the element it requires to destroy the affinity of the gold in the ore for the element holding it in combination, and by sealing the muffle the air is kept out, which allows the supplied element to do its work without having a concentration from the oxygen of the air. In this way to a sulphide ore is first added carbon in some form, and the carbon, with the sulphur in the ore forms a bisulphide of carbon that reduces the iron to a sesquioxide, which is partially soluble, or goes into suspension in water, thus leaving the gold free and metallic; the arsenic in the ore, if retained through the process, would leave the gold in such form that the quick would not act on it, but take up the arsenic instead; but the same limited amount of oxygen in the muffle, in the presence of the carbon, first reduces the arsenic in the ore to a metallic form, and the same heat in time and under the same conditions volatilises it. To each one the necessary chemical is to be added. The roasting is claimed to destroy the natural affinity of the gold in the ore, so that the affinity left it or the ore created for it is soluble in water; and that the gold which before roasting would not pan at all, after the treatment will pan more than ordinary cupelling would bring without the roasting. This is accounted for on the same principle that the element in combination with the gold holds for it a stronger affinity than that sought to be created for it with the lead in the scorifice, and consequently does not leave its natural for the artificial element, and escapes detection in the ordinary process. The effect of the roasting is greater on some ores than others, the inventor says, and it is not on all that his process shows a gain, but on extremely refractory ores of some characters he says he has been able to find as high as 15 times the value found in ordinary cupelling. Also ores that show no free gold when panned before treatment, after roasting pan as freely as quartz that is luminous with gold to the naked eye.—*Daily Inter-Mountain.*

LONDON-PARIS FINANCIAL AND MINING CORPORATION (LIMITED).—The statutory general meeting of the shareholders in this company was held at Winchester House, on Tuesday.—Mr. John Paddon, who presided, said they might congratulate the shareholders of the company on the fact that the business which the company had in hand promised to be good and profitable, and they believed that on a future occasion they might have something pleasing to place before the shareholders.—In answer to questions, the Chairman added that it was the intention of the directors to call up the uncalled capital. Notice for the call payable on May 14 had already been posted to the shareholders, and it was their intention to make the other call in mid-June, which would then complete the whole of the capital. When the shares were fully paid it was intended to introduce them on the Paris Bourse.—The proceedings terminated with a vote of thanks to the Chairman.

AUSTRALIAN EXPORTS FOR APRIL.—The exports from Melbourne, Adelaide, Sydney, and Queensland to Great Britain are as follows:—Copper, 800 tons; copper ore, 200 tons; tin, 200 tons.

MINING NOTES FROM JOHANNESBURG.

By H. BUSH, M.E.

(*Cabled Weekly*).

Klerksdorp Gold Fields.

The latest run in the Transvaal for new claims has set in on these fields, and when it is seen that the returns from claims, licenses, &c., has increased from £500 to £3000 a month, it can easily be imagined that Klerksdorp is having the '88 boom over again; but whether it is justified or not the reader will be able to judge by this note. The backbone of the whole district is the Eastleigh Mine, from which so much has been expected in the past, and from which so little has been derived. The past history of the mine is that with a 20-stamp battery a profit of over £1000 a month was obtained, and the directors gave orders to the manager to erect a 60-stamp mill, and, as they thought, obtain £3500 to £4000 a month, which as anyone who knows the property will readily understand, was absurd to expect, the reef being of the Black reef series. The gold runs through the oblique shoots, and the ore between the shoots is of a low grade and unpayable, and then it requires further development to get into the next shoot, so it can be readily understood that a small mill could be kept going, and give larger profits per ton, than a large mill, as the reef needs very careful sorting and sampling, especially where there has never been very great development. The present position of the Eastleigh is that they have a stamp battery that is too light for the pyritical ore, and everything except the cyanide works shows that the works have been and are carried out on the hand to-mouth principle. It is said that a few months back some of the owners were afraid they would never make a mine of it, but this was caused by striking a very poor stone of ore between the free and pyritical stone; but since the pyritical ore has been developed the assays have improved steadily, and from 30 assays taken from about 3 feet of ore it averaged about 16 dwts., which is very encouraging, and shows that they have probably entered another pay shoot. The reef has also widened out from 5 feet to 7 feet in the bottom of the shaft, and looks like maintaining that width. The development of the mine has been sadly neglected, and, in justice to the property, it is only fair to state that only 40 stamps have been running the full month, giving a profit of £1300. The length of the property on the reef is about 10,000 feet, and about 3500 on the dip; the average width of the reef can be taken at 4 feet, and at the lowest levels the dip is only about 5°; but it would not be safe to work out the life of the mine on these figures, as it is not possible that one-half of the ore in the Eastleigh is payable, and it will be interesting to know to what depth the payable ore now in the bottom of the shaft continues, but we must wait the development to prove this, and the next few months will have a great effect upon the mine, which, from all appearances, seems favourable. What is wanted, and will sooner or later have to be furnished, is £60,000 spent on new heavy machinery and energetic development of the mine.

Klerksdorp Gold and Diamond Company.

The old Klerksdorp Estates reconstructed in 107 shares, and have about £30,000 in hand. This mine is on the next series of reefs, of which there are three. The biggest reef is about 14 feet wide, the pay ore being in the centre of the reef about 2 feet in width. One of the best guides as to its value is that the tributors obtained from 6 to 7 dwts., and the tailings are said to assay 2 dwts. This is no great catch, but is payable, and the pannings show that about 6 dwts. can be expected. The ore is free, and it is the intention of the manager to work it with the direct treatment, which is proving such a success in this quality of ore, so there will be no need of a battery. On the western boundary a bore-hole has just struck a reef 1 foot wide, assaying 3 ounces, and another reef assaying 14 dwts., thus proving that payable ore exists throughout the property, and with careful management this company should return small profits; but it will never be a big mine unless the treatment of the ore on a large scale is a big success, which, of course, is possible. There is no doubt as to diamonds having been found in the mine, but as to them being in payable quantities time alone will show.

Westleigh Mines.

New company just floated, adjoining Eastleigh. There has been no work done as yet, but from results obtained by the Eastleigh, the results from this portion should be equal to those of its neighbour. The ground to the west has not been proved and it is difficult to estimate its value. This company should be carefully watched as development proceeds, as there are parts of the reef that will give excellent results.

Eastleigh Deep Levels.

To be floated shortly. Two boreholes have been put down on the Deep Levels and struck the reef 4 feet wide.

Ariston Company (adjoining Eastleigh)

consists of 40 claims. This mine has a fair future. A payable shoot of gold is on the property going about 13 dwts., but for what extent is not known.

Wilkinson Syndicate

consists of 25 claims. Capital £70,000. The prospects of this mine are very uncertain. Development is about to be carried on to thoroughly prove the property.

Reynold's Mine.

Not working, but there is a manager on the claims to see that they do not run away. It would be more business-like if they were to look for payable gold, which will be found on the property, as it adjoins the Afrikander Mine, and the reef is opened up on the property but is of low grade.

Klerksdorp Mine.

This company is about to be floated, consisting of 4000 claims on the Elandstuevel Mynpacht. There are several reefs; the best one is about 2 feet wide, giving pannings of about 8 dwts. Claims are being developed rapidly. Over 20 reefs on the property, including Buffelsdoorn reef, Eastleigh reef, and Klerksdorp reef. Borehole on the east boundary struck reef assaying 3 ounces. A big mining proposition with great speculative chances.

Buffelsdoorn Consolidated.

800 claims, with Buffelsdoorn and Eastleigh reefs opened up, and with development should turn out a big mine. General prospecting is being carried on in all directions, but, with one or two exceptions, the results are very low.

Buffelsdorn Mine.

Active work is being carried out to the west of the Old Buffels Mine. The reef is clearly defined going west, but the surface being heavy and the ground disturbed to the east prevents operations being carried out in this direction. The mine has opened up satisfactorily; the average of 9½ dwts. is and will be easily maintained, and in nine months the extra 70 stamps will be running, when 20,000 tons per month will be milled. A new manager is to be appointed, and it can be expected that this mine will rank as one of the 9000 ounces propositions during the next year. The reef looks well and clearly defined through-

out, and mine and things in general are satisfactory. The Black reef to the south of the company is opening out fairly well, and is an additional asset to the company.

Wolverand Mine.

This is the lowest-valued and least-thought-of-mine of all the Klerksdorp properties, and with the recent developments it is certain that it is the best, or if not at present it will be so in the future. The mynpacht is about 370 claims, and the farm is about 5000 acres in extent. There are about 104 reef that either run through or dip into the property, and the past workings show 5 dwts. free gold, and the tailings assayed by the writer gave 4½ dwts. This property has the same reefs dipping into it at both boundaries—that is to say, the reef sweeps half-moon shape around the claims.

Afrikander Mine.

Amalgamated with Deep Levels, making 160 claims; reef 3 feet wide; ore worth 33s. per ton. All costs 27s., profit 6s., which will probably be increased to 8s. Direct treatment great success. This company will pay a decent percentage on its increased capital of £200,000.

Haartbeest Union Syndicate.

There are patches on this property that are payable, but as they have so many isolated blocks it will be difficult to work them.

STRIKE AT THE PEEL HALL COLLIERIES.—The whole of the miners, numbering over 300, employed at Messrs. Roscoe's Peel Hall Collieries, Littlehulton, Bolton, have come out on strike against a proposed reduction in wages. The masters offer 3s. 9d. per ton for round coal in Little Coal Mine, and 3s. for small, the men demanding 3s. 2d. for small. In Plodder Mine the men demand 2s. 8d. and 2s. 2d. for round and small respectively, the firm offering 2d. per ton less for each sort. A large number of men not connected with the Union will be thrown out of employment.

TIN TICKETING.

A TICKETING for tin ores was held at Tabb's Hotel, Redruth, on Tuesday, with the following result:—

VALUES OF ORES SOLD BY EACH MINE.

	Tons cwts.	Per ton.	Value.
Wheal Grenville a	19 0	£40 15 0	£774 5 0
do b	19 0	40 15 0	774 5 0
Carn Brea No. 1	17 0	33 12 6	571 12 6
do No. 1a	17 0	33 12 6	571 12 6
do No. 2	1 0	24 2 6	24 2 6
Tincroft	16 0	33 15 0	540 0 0
do	15 0	33 17 6	508 2 6
do	3 0	21 0 0	63 0 0
East Pool a	15 0	36 0 0	540 0 0
do b	16 0	36 2 6	578 0 0
do No. 2	1 10	17 10 0	26 5 0
Dolcoath No. 1	16 0	39 12 6	634 0 0
do No. 1a	16 0	39 12 6	634 0 0
South Frances No 1	10 0	38 12 6	386 5 0
do No. 1a	10 0	38 17 6	388 15 0
Wheal Basset	18 0	41 2 6	740 5 0
Phœnix United No 1	11 0	40 17 6	449 12 6
do No. 2	3 0	33 5 0	99 15 0
West Kitty	13 0	41 2 6	534 12 6
West Frances	12 0	38 7 6	460 10 0
Killifreth	10 0	38 10 0	385 0 0
South Condurrow	7 0	41 12 6	291 7 6
Wheal Kitty	6 0	40 10 0	243 0 0
Wheal Agar	4 10	36 2 6	162 11 3
	276 0		£10,380 18 9

Average price per ton, £37 12s. 2d.

AVERAGE PRICES PER TON.

Jan. 29	£35	6	6	March 26	£35	19 11
Feb. 12	34	5	6	April 9	36	7 6
Feb. 26	34	3	7	April 16	36	17 1
March 12	34	3	7	May 7	37	12 2

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It is not intended only to negotiate the sale of an entire property but interests in such may be sold or money obtained for development work.

This Company especially solicits the business of making reports or examinations for non-resident mine owners on any of their mines in the United States, and obtaining special information as to their condition and so forth (said reports being confidential).

Those who conduct the business of the Company have had long experience in mining operations, and it is their intention to place the Company in a position to inspire the confidence of all who seek its assistance in its integrity and fair dealing.

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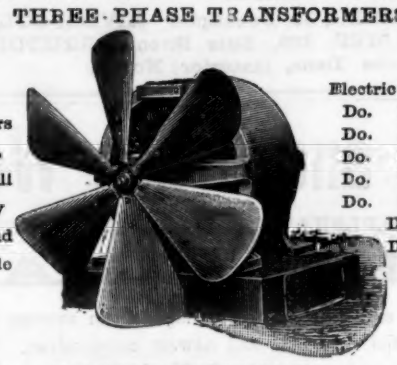

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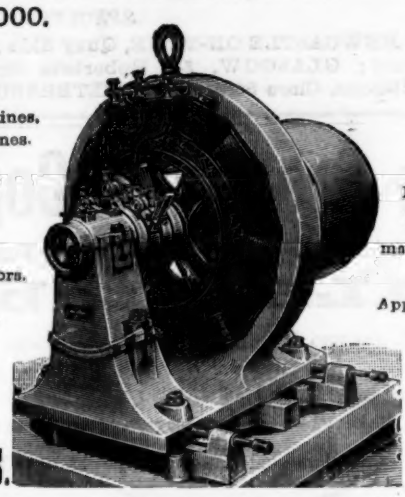

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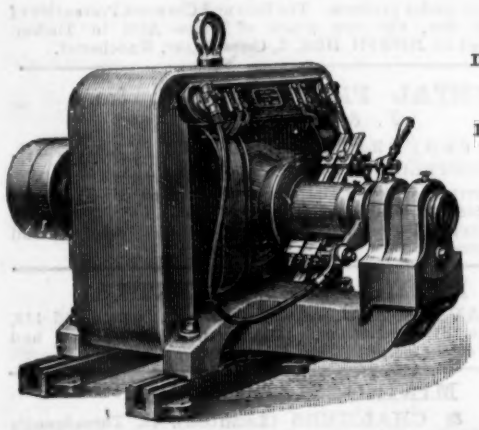

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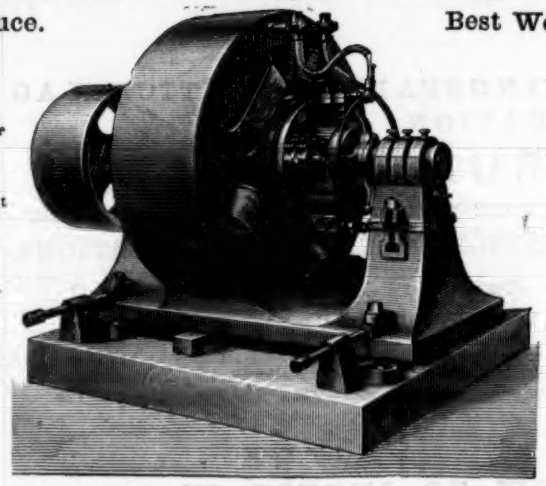

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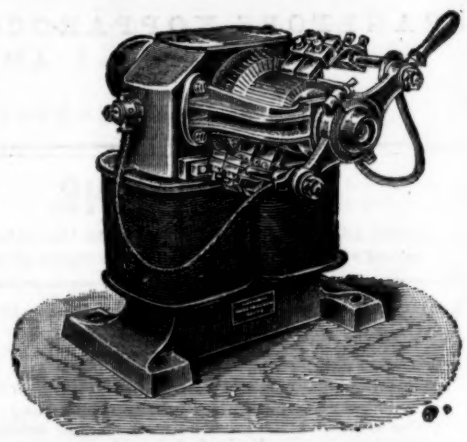

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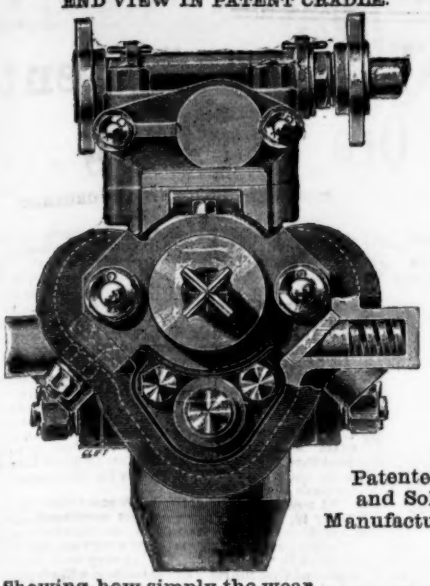

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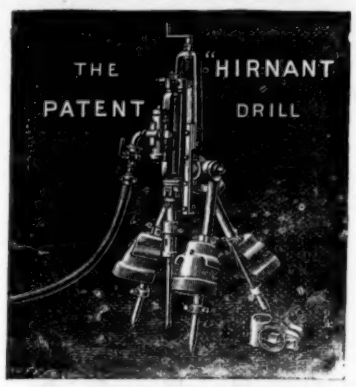

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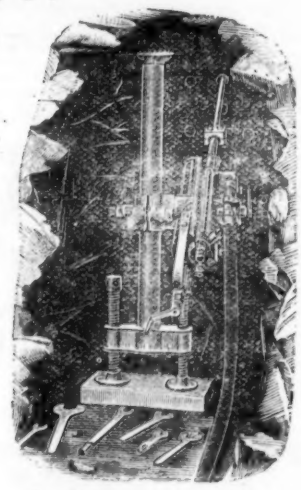

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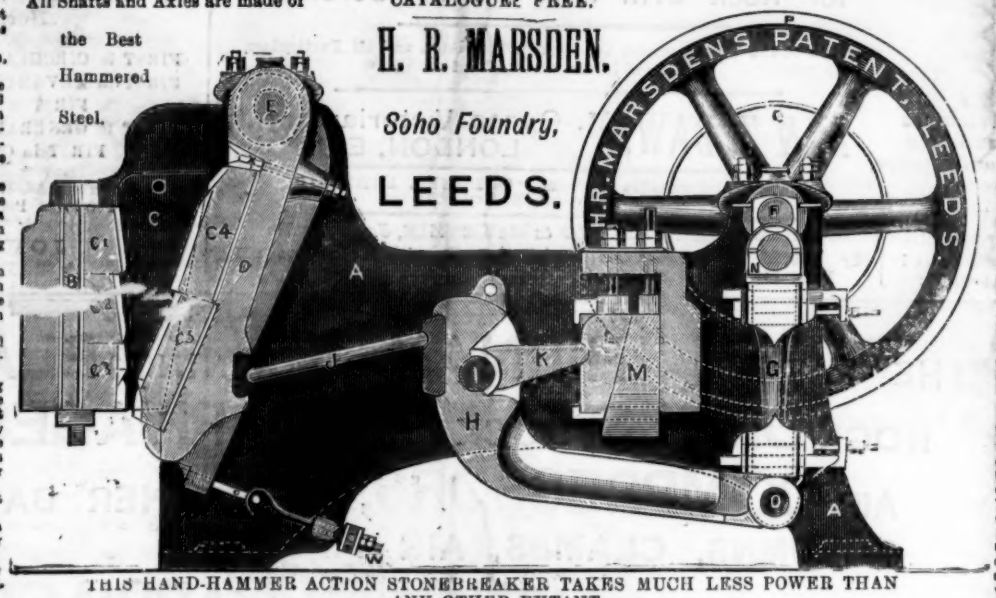

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The Fine Crusher we had from you in August last is an excellent pulverizer, and rapidly reduces hard material to a fine powder."

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"It is with the greatest satisfaction that we write these few lines in order to acquaint you that the 12×3 Pulverizer you provided us with, has quite fully given the results you represented to us, completely reducing our material to an impalpable powder at one operation. Should you refer any one to us we should have much pleasure in recommending the machine."

"I have great pleasure in bearing testimony to the merits and capabilities of your patent combined fine crusher and sieving apparatus. I have tried it on a variety of ores and minerals, and it pulverizes them with equal success. You can put in a small paving stone and bring it out like flour."

"In reply to your favour, I have much pleasure in informing you that the 12×3 Pulverizer we had from you is giving us every satisfaction. The material we are operating on is an exceptionally hard one. I am well satisfied with its working."

"Our experience is that the motion and mechanical arrangements of your machine are the best for pulverising that we have ever met with"

"The reports from our mines as regards the working of your Fine Crusher (20×5) recently supplied are very favourable, although we cannot quote you exact figures. On being got into position it was tried by hand, with the result that it made short work of the biggest pieces of ore we put into the hopper. You might s. y how long you would take to deliver another of the same size."

"As I once before stated, your machine is a perfect p ulveriser."

"I am sure the machine will be a success, and a great one, and there is any amount of demand for such a machine. We can work it with 20 lbs. of steam and our engine, which is a 12-h.p., plays with the work, in fact we run the Stonebreaker and the Pulverizer both together with 35 lbs."

STONEBREAKERS AND ORE CRUSHER TESTIMONIALS.

"We have great pleasure in testifying to the efficiency of the 15 in. by 8 in Lever Hand Hammer Motion Stone Breaker you supplied us with. We find that our 4 h-p. Engine with ease drives it 250 revolutions per minute, and breaks six ton per hour of the hardest "Diorite" Whinstone: the sample is much before any hand-broken we have ever got done. Our Mr. P. J. GRAHAM, C.E., who was Surveyor of Highways for ten years, before joining our firm, says It is by far the most economical machine he ever had to do with; he had two of your former make, and two of another firm's make; compared with these four machines your new patent gives the following advantages:—The horse-power required to drive is exactly 40 per cent. less. The sample of the broken macadam is so far superior to that broken by other machines, and even to that broken by hand that we can make no comparison. It is by far the best sample we have ever seen."

"I now order three of your Stone Crushers, size 15 by 10, to be of your very best construction, and to include two extra sets of Jaws and Cheeks for each. The last two 24×13 machines you sent me, which are at work in this colony, are doing very well. You will soon find that the railway contractors will adopt your machines in preference to the colonial ones—two of which I have. I know other contractors have had as many as nine of them, which have not given very good satisfaction. Once they know of yours thoroughly, I believe you will do a good trade with the colonies. For reference of the high character of your constructions you can refer to me as having used them with the very best results, both in New Zealand and this colony, and much prefer them to the colonial article, both in point of construction and less liability to go out of order. The material we are crushing is very hard blue stone, for railway ballast purposes. Push on with the order as quickly as possible; I do not think it necessary to have any engineering inspection. I have brought your machines prominently under the notice of all large contractors in this colony, likewise the Government Many of the contractors have spoken to me in reference to their capabilities, and I could only tell them that they are by far and away the best and most economical I ever used. The very fact of me having purchased eleven from you at various intervals and various sizes, and two above 12 years ago, and having tried all the other makers is sufficient guarantee of the capabilities and the working of your machines. Yours in every way surpass all others."

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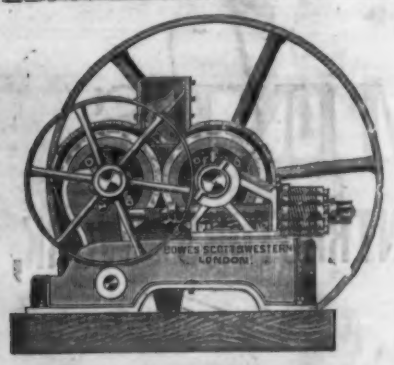

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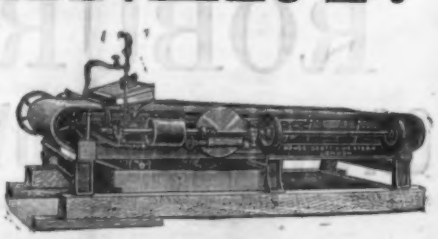

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